

## **Bible Springs Complex Monitoring Report**

The Bible Springs Complex consists of the following allotments: Bennion Spring, Bucket Ranch, Bull Spring, Culver Spring, Gold Spring, Jackson Wash, Jockeys, Lone Pine Spring, Lund, Modena Canyon, Mountain Spring, Pine Valley, Rosebud, Sheep Spring, Water Hollow and Willow Creek.

There are six rain gauges in the vicinity of the Bible Springs Complex including Bible Springs, Jockeys, Pine Valley, Willow Creek, Wintch and Woods and Eyres. The following charts and tables present rain gauge data within the Bible Springs Complex.

The Bible Spring Complex is experiencing drought conditions in 2021/2022. Precipitation data is collected every quarter as follows:

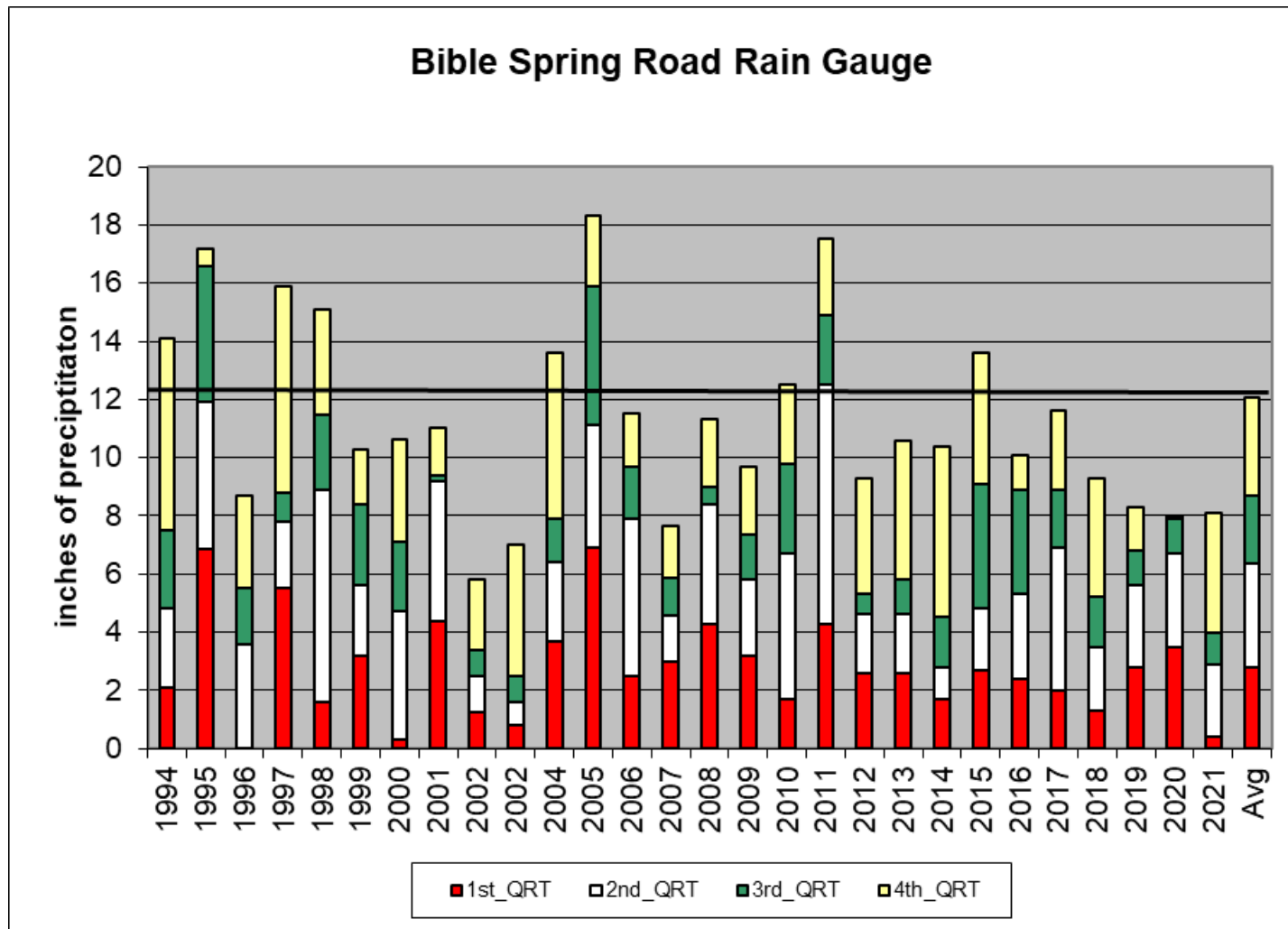
<b>Quarter</b>	<b>Season</b>
1	October – December
2	January – March
3	April – June
4	July - September

The following is the precipitation that has been received to date October 2020 – September 2021:

<b>Rain Gauge</b>	<b>Percentage of Normal</b>
Bible Spring	67%
Jockeys	58%
Pine Valley	63%
Willow Creek	91%
Wintch	74%
Woods and Eyres	52%

## 1. Bible Springs Rain Gauge

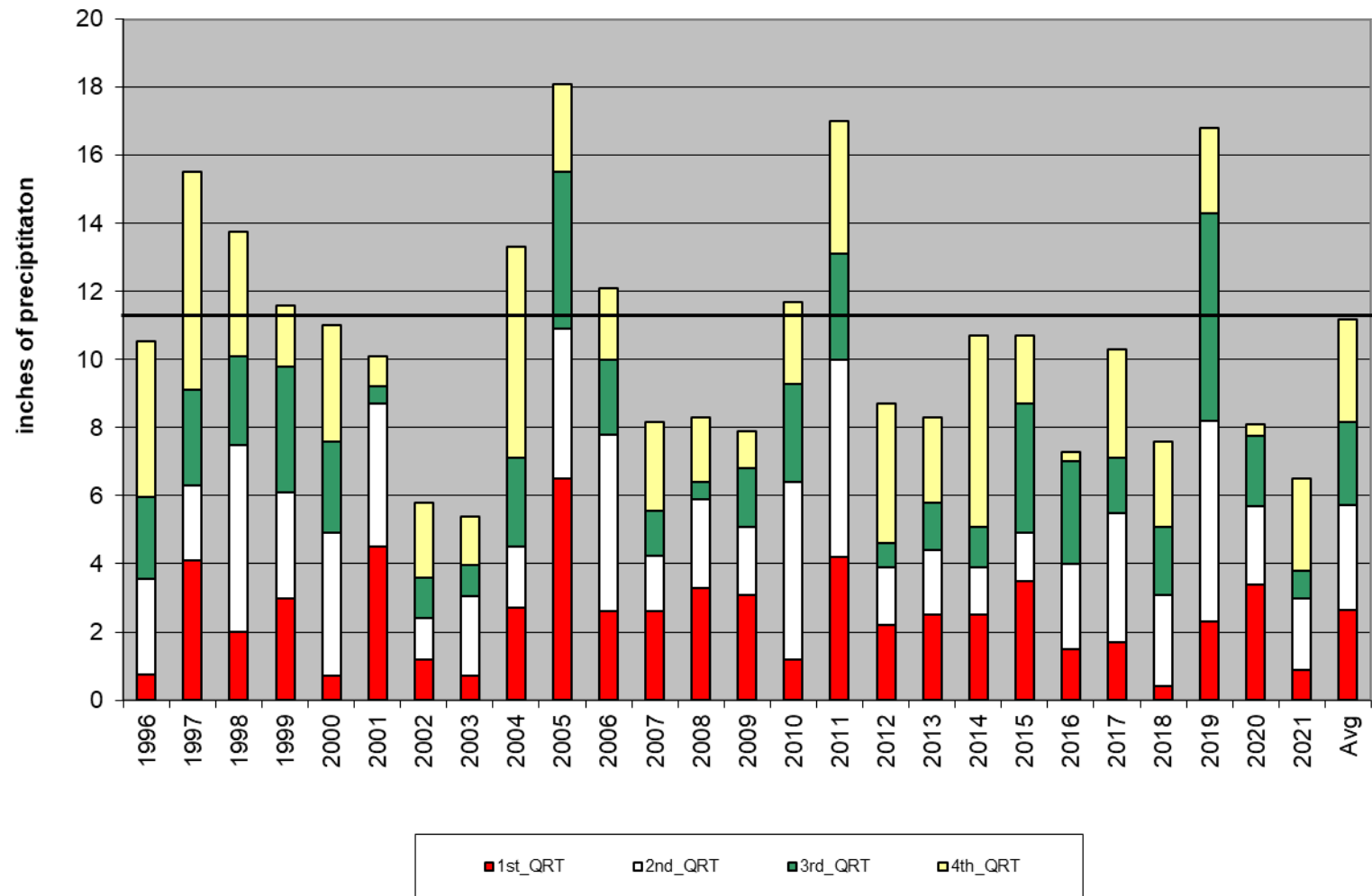
WATER_YEAR	1st_QRT	2nd_QRT	3rd_QRT	4th_QRT	Total	1st_Qrt%	2ndQrt%	3rd_Qrt%	4th%	YEARLY%
1994	2.1	2.7	2.7	6.6	14.1	75%	76%	117%	195%	117%
1995	6.85	5.05	4.7	0.6	17.2	244%	142%	204%	18%	143%
1996		3.6	1.9	3.2	8.7	0%	101%	82%	94%	72%
1997	5.5	2.3	1	7.1	15.9	196%	65%	43%	210%	132%
1998	1.6	7.3	2.56	3.64	15.1	57%	205%	111%	107%	125%
1999	3.2	2.4	2.8	1.9	10.3	114%	67%	121%	56%	85%
2000	0.3	4.4	2.4	3.51	10.61	11%	124%	104%	104%	88%
2001	4.4	4.8	0.2	1.6	11	157%	135%	9%	47%	91%
2002	1.25	1.25	0.9	2.4	5.8	45%	35%	39%	71%	48%
2002	0.8	0.8	0.9	4.5	7	29%	22%	39%	133%	58%
2004	3.7	2.7	1.5	5.7	13.6	132%	76%	65%	168%	113%
2005	6.9	4.2	4.8	2.4	18.3	246%	118%	208%	71%	152%
2006	2.5	5.4	1.8	1.8	11.5	89%	152%	78%	53%	95%
2007	3	1.58	1.27	1.8	7.65	107%	44%	55%	53%	63%
2008	4.3	4.1	0.6	2.3	11.3	153%	115%	26%	68%	94%
2009	3.2	2.6	1.55	2.35	9.7	114%	73%	67%	69%	80%
2010	1.7	5	3.1	2.7	12.5	61%	141%	134%	80%	104%
2011	4.3	<b>8.2</b>	2.4	2.6	17.5	153%	231%	104%	77%	145%
2012	2.6	2	0.7	4	9.3	93%	56%	30%	118%	77%
2013	2.6	2	1.2	4.8	10.6	93%	56%	52%	142%	88%
2014	1.7	1.1	1.7	5.9	10.4	61%	31%	74%	174%	86%
2015	2.7	2.1	4.3	4.5	13.6	96%	59%	186%	133%	113%
2016	2.4	2.9	3.6	1.2	10.1	86%	82%	156%	35%	84%
2017	2	4.9	2	2.7	11.6	71%	138%	87%	80%	96%
2018	1.3	2.2	1.7	4.1	9.3	46%	62%	74%	121%	77%
2019	2.8	2.8	1.2	1.5	8.3	100%	79%	52%	44%	69%
2020	3.5	3.2	1.2	0.1	8	125%	90%	52%	3%	66%
2021	0.4	2.5	1.1	4.1	8.1	14%	70%	48%	121%	67%
<b>Avg</b>	<b>2.80</b>	<b>3.56</b>	<b>2.31</b>	<b>3.39</b>	<b>12.06</b>					



## 2. Jockeys Rain Gauge

WATER_YEAR	1st_QRT	2nd_QRT	3rd_QRT	4th_QRT	Total	1st_Qrt%	2ndQrt%	3rd_Qrt%	4th%	YEARLY%
1996	0.75	2.8	2.4	4.6	10.55	0%	0%	0%	0%	94%
1997	4.1	2.2	2.8	6.4	15.5	155%	71%	116%	211%	139%
1998	2	5.5	2.58	3.67	13.75	76%	178%	106%	121%	123%
1999	3	3.1	3.7	1.8	11.6	114%	100%	153%	59%	104%
2000	0.7	4.2	2.7	3.41	11.01	27%	136%	111%	112%	98%
2001	4.5	4.2	0.5	0.9	10.1	170%	136%	21%	30%	90%
2002	1.2	1.2	1.2	2.2	5.8	45%	39%	50%	72%	52%
2003	0.7	2.35	0.9	1.45	5.4	27%	76%	37%	48%	48%
2004	2.7	1.8	2.6	6.2	13.3	102%	58%	107%	204%	119%
2005	6.5	4.4	4.6	2.6	18.1	246%	142%	190%	86%	162%
2006	2.6	5.2	2.2	2.1	12.1	98%	168%	91%	69%	108%
2007	2.6	1.65	1.32	2.6	8.17	98%	53%	54%	86%	73%
2008	3.3	2.6	0.5	1.9	8.3	125%	84%	21%	63%	74%
2009	3.1	2	1.7	1.1	7.9	117%	65%	70%	36%	71%
2010	1.2	5.2	2.9	2.4	11.7	45%	168%	120%	79%	105%
2011	4.2	5.8	3.1	3.9	17	159%	188%	128%	129%	152%
2012	2.2	1.7	0.7	4.1	8.7	83%	55%	29%	135%	78%
2013	2.5	1.9	1.4	2.5	8.3	95%	61%	58%	82%	74%
2014	2.5	1.4	1.2	5.6	10.7	95%	45%	50%	185%	96%
2015	3.5	1.4	3.8	2	10.7	133%	45%	157%	66%	96%
2016	1.5	2.5	3	0.3	7.3	57%	81%	124%	10%	65%
2017	1.7	3.8	1.6	3.2	10.3	64%	123%	66%	105%	92%
2018	0.4	2.7	2	2.5	7.6	15%	87%	83%	82%	68%
2019	2.3	5.9	6.1	2.5	16.8	87%	191%	252%	82%	150%
2020	3.4	2.3	2.05	0.35	8.1	129%	74%	85%	12%	72%
2021	0.9	2.1	0.8	2.7	6.5	34%	68%	33%	89%	58%
<b>Avg</b>	<b>2.64</b>	<b>3.09</b>	<b>2.42</b>	<b>3.03</b>	<b>11.19</b>					

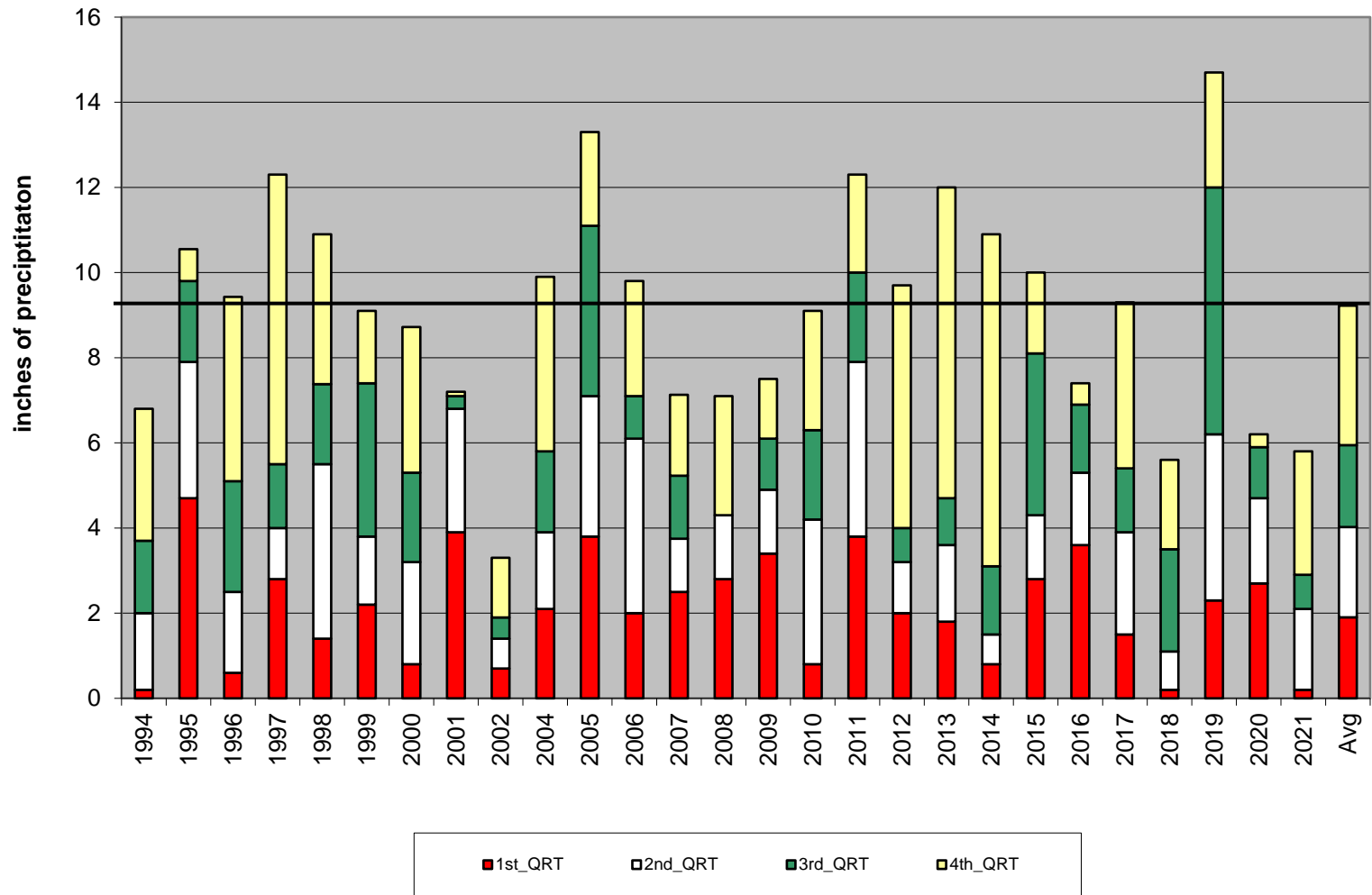
# JOCKEYS Rain Gauge



### 3. Pine Valley Rain Gauge

WATER_YEAR	1st_QRT	2nd_QRT	3rd_QRT	4th_QRT	Total	1st_Qrt%	2ndQrt%	3rd_Qrt%	4th%	YEARLY%
1994	0.2	1.8	1.7	3.1	6.8	11%	85%	88%	95%	74%
1995	4.7	3.2	1.9	0.75	10.55	247%	151%	99%	23%	114%
1996	0.6	1.9	2.6	4.33	9.43	32%	90%	135%	132%	102%
1997	2.8	1.2	1.5	6.8	12.3	147%	57%	78%	207%	133%
1998	1.4	4.1	1.88	3.52	10.9	74%	193%	98%	107%	118%
1999	2.2	1.6	3.6	1.7	9.1	116%	75%	187%	52%	99%
2000	0.8	2.4	2.1	3.42	8.72	42%	113%	109%	104%	95%
2001	3.9	2.9	0.3	0.1	7.2	205%	137%	16%	3%	78%
2002	0.7	0.7	0.5	1.4	3.3	37%	33%	26%	43%	36%
2004	2.1	1.8	1.9	4.1	9.9	110%	85%	99%	125%	107%
2005	3.8	3.3	4	2.2	13.3	200%	156%	208%	67%	144%
2006	2	4.1	1	2.7	9.8	105%	193%	52%	82%	106%
2007	2.5	1.25	1.48	1.9	7.13	131%	59%	77%	58%	77%
2008	2.8	1.5		2.8	7.1	147%	71%	0%	85%	77%
2009	3.4	1.5	1.2	1.4	7.5	179%	71%	62%	43%	81%
2010	0.8	3.4	2.1	2.8	9.1	42%	160%	109%	85%	99%
2011	3.8	4.1	2.1	2.3	12.3	200%	193%	109%	70%	133%
2012	2	1.2	0.8	5.7	9.7	105%	57%	42%	174%	105%
2013	1.8	1.8	1.1	7.3	12	95%	85%	57%	223%	130%
2014	0.8	0.7	1.6	7.8	10.9	42%	33%	83%	238%	118%
2015	2.8	1.5	3.8	1.9	10	147%	71%	198%	58%	108%
2016	3.6	1.7	1.6	0.5	7.4	189%	80%	83%	15%	80%
2017	1.5	2.4	1.5	3.9	9.3	79%	113%	78%	119%	101%
2018	0.2	0.9	2.4	2.1	5.6	11%	42%	125%	64%	61%
2019	2.3	3.9	5.8	2.7	14.7	121%	184%	302%	82%	159%
2020	2.7	2	1.2	0.3	6.2	142%	94%	62%	9%	67%
2021	0.2	1.9	0.8	2.9	5.8	11%	90%	42%	88%	63%
<b>Avg</b>	<b>1.90</b>	<b>2.12</b>	<b>1.92</b>	<b>3.28</b>	<b>9.22</b>					

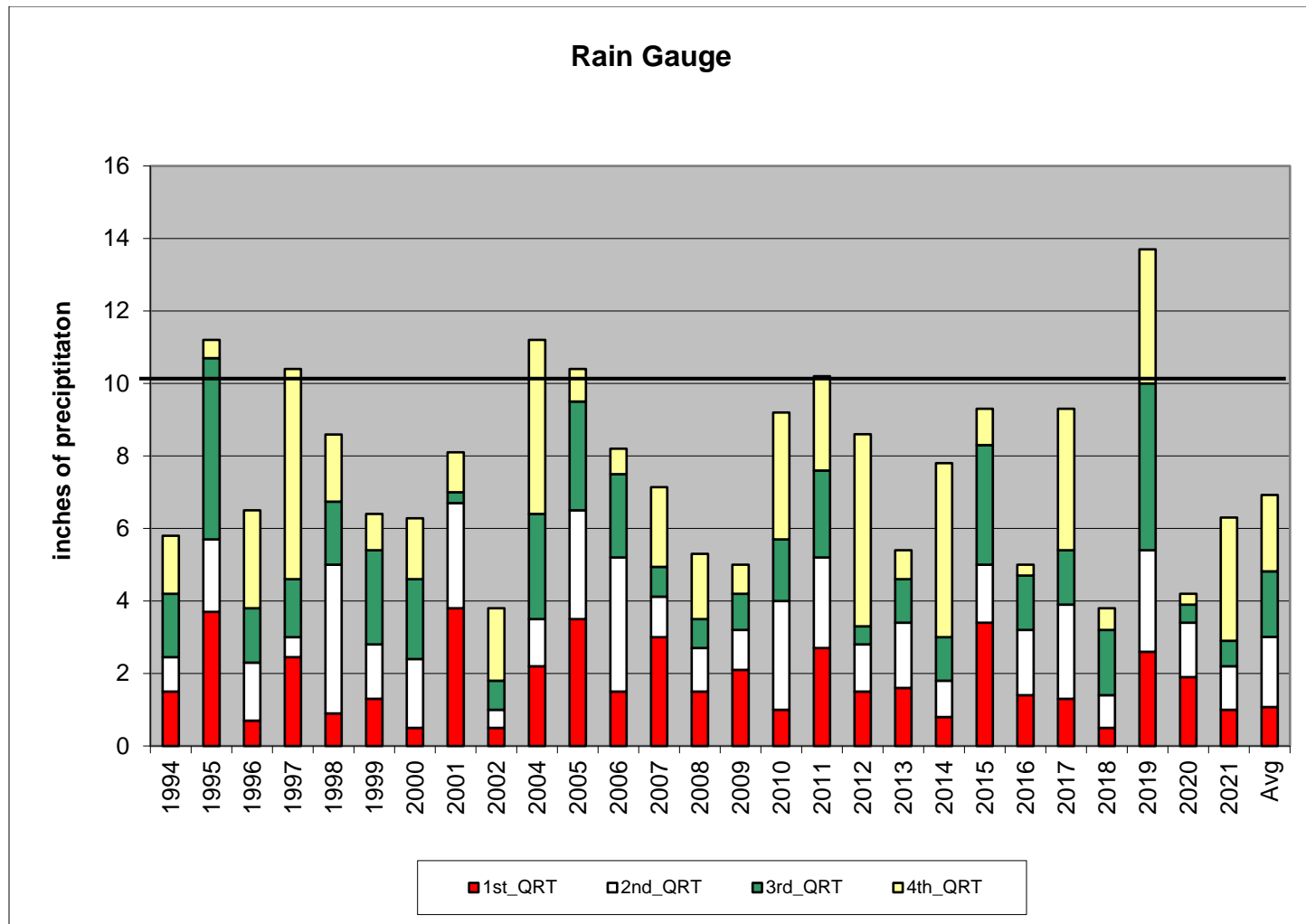
# Pine Valley Rain Gauge



#### 4. Willow Creek Rain Gauge

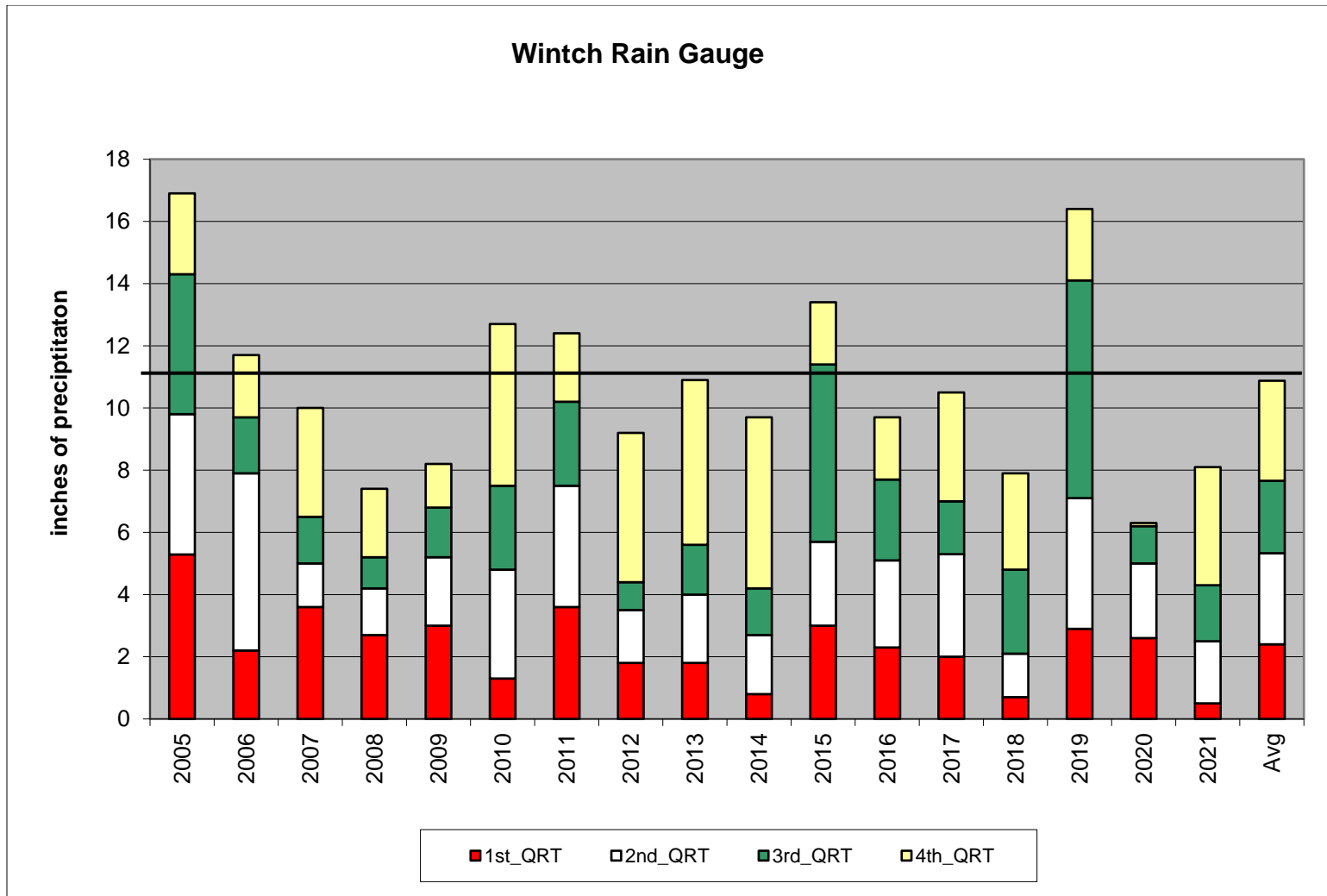
WATER_YEAR	1st_QRT	2nd_QRT	3rd_QRT	4th_QRT	Total	1st Qrt%	2ndQrt%	3rd Qrt%	4th%	YEARLY%
1994	1.5	0.95	1.75	1.6	5.8	140%	49%	97%	76%	84%
1995	3.7	2	5	0.5	11.2	344%	103%	277%	24%	162%
1996	0.7	1.6	1.5	2.7	6.5	65%	83%	83%	128%	94%
1997	2.45	0.55	1.6	5.8	10.4	228%	28%	89%	275%	150%
1998	0.9	4.1	1.74	1.85	8.59	84%	212%	96%	88%	124%
1999	1.3	1.5	2.6	1	6.4	121%	78%	144%	47%	92%
2000	0.5	1.9	2.2	1.68	6.28	47%	98%	122%	80%	91%
2001	3.8	2.9	0.3	1.1	8.1	354%	150%	17%	52%	117%
2002	0.5	0.5	0.8	2	3.8	0%	0%	0%	0%	55%
2004	2.2	1.3	2.9	4.8	11.2	205%	67%	161%	228%	162%
2005	3.5	3	3	0.9	10.4	326%	155%	166%	43%	150%
2006	1.5	3.7	2.3	0.7	8.2	140%	191%	127%	33%	118%
2007	3	1.12	0.82	2.2	7.14	279%	58%	45%	104%	103%
2008	1.5	1.2	0.8	1.8	5.3	140%	62%	44%	85%	77%
2009	2.1	1.1	1	0.8	5	195%	57%	55%	38%	72%
2010	1	3	1.7	3.5	9.2	93%	155%	94%	166%	133%
2011	2.7	2.5	2.4	2.6	10.2	251%	129%	133%	123%	147%
2012	1.5	1.3	0.5	5.3	8.6	140%	67%	28%	251%	124%
2013	1.6	1.8	1.2	0.8	5.4	149%	93%	66%	38%	78%
2014	0.8	1	1.2	4.8	7.8	74%	52%	66%	228%	113%
2015	3.4	1.6	3.3	1	9.3	317%	83%	183%	47%	134%
2016	1.4	1.8	1.5	0.3	5	130%	93%	83%	14%	72%
2017	1.3	2.6	1.5	3.9	9.3	121%	134%	83%	185%	134%
2018	0.5	0.9	1.8	0.6	3.8	47%	47%	100%	28%	55%
2019	2.6	2.8	4.6	3.7	13.7	242%	145%	255%	175%	198%
2020	1.9	1.5	0.5	0.3	4.2	177%	78%	28%	14%	61%
2021	1	1.2	0.7	3.4	6.3	93%	62%	39%	161%	91%
<b>Avg</b>	<b>1.07</b>	<b>1.94</b>	<b>1.81</b>	<b>2.11</b>	<b>6.92</b>					





## 5. Wintch Rain Gauge

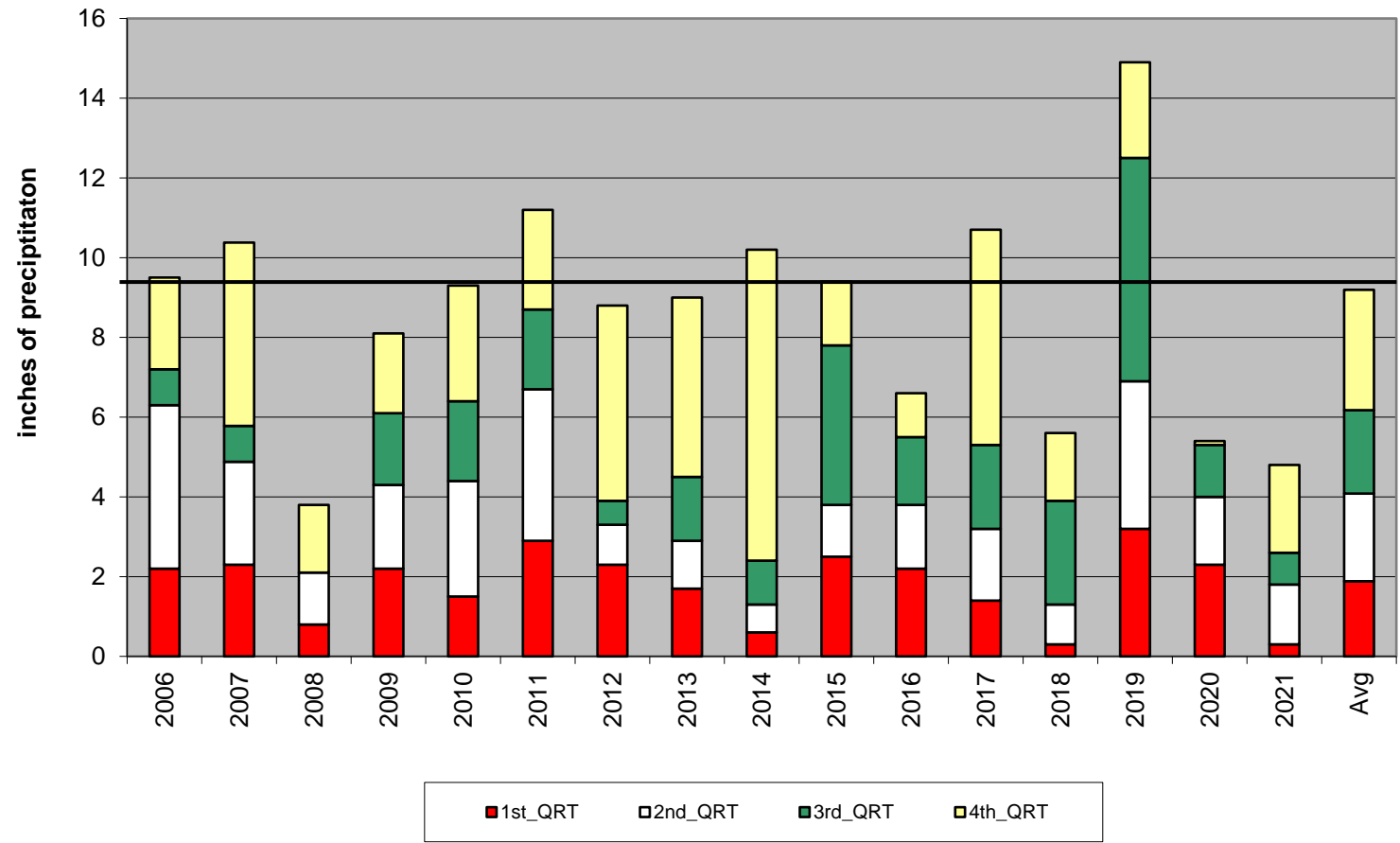
WATER_YEAR	1st_QRT	2nd_QRT	3rd_QRT	4th_QRT	Total	1st Qrt%	2ndQrt%	3rd Qrt%	4th%	YEARLY%
2005	5.29	4.51	4.5	2.6	16.9	220%	154%	193%	81%	155%
2006	2.2	5.7	1.8	2	11.7	92%	195%	77%	62%	108%
2007	3.6	1.4	1.5	3.5	10	150%	48%	64%	109%	92%
2008	2.7	1.5	1	2.2	7.4	112%	51%	43%	68%	68%
2009	3	2.2	1.6	1.4	8.2	125%	75%	69%	44%	75%
2010	1.3	3.5	2.7	5.2	12.7	54%	120%	116%	162%	117%
2011	3.6	3.9	2.7	2.2	12.4	150%	133%	116%	68%	114%
2012	1.8	1.7	0.9	4.8	9.2	75%	58%	39%	149%	85%
2013	1.8	2.2	1.6	5.3	10.9	75%	75%	69%	165%	100%
2014	0.8	1.9	1.5	5.5	9.7	33%	65%	64%	171%	89%
2015	3	2.7	5.7	2	13.4	125%	92%	245%	62%	123%
2016	2.3	2.8	2.6	2	9.7	96%	96%	112%	62%	89%
2017	2	3.3	1.7	3.5	10.5	83%	113%	73%	109%	97%
2018	0.7	1.4	2.7	3.1	7.9	29%	48%	116%	96%	73%
2019	2.9	4.2	7	2.3	16.4	121%	143%	300%	72%	151%
2020	2.6	2.4	1.2	0.1	6.3	108%	82%	51%	3%	58%
2021	0.5	2	1.8	3.8	8.1	21%	68%	77%	118%	74%
<b>Avg</b>	<b>2.40</b>	<b>2.93</b>	<b>2.33</b>	<b>3.22</b>	<b>10.87</b>					



## 6. Woods and Eyres Rain Gage

WATER_YEAR	1st_QRT	2nd_QRT	3rd_QRT	4th_QRT	Total	1st_Qrt%	2ndQrt%	3rd_Qrt%	4th%	YEARLY%
2006	2.2	4.1	0.9	2.3	9.5	117%	187%	43%	76%	103%
2007	2.3	2.58	0.9	4.6	10.38	122%	117%	43%	152%	113%
2008	0.8	1.3		1.7	3.8	42%	59%	0%	56%	41%
2009	2.2	2.1	1.8	2	8.1	117%	96%	86%	66%	88%
2010	1.5	2.9	2	2.9	9.3	80%	132%	96%	96%	101%
2011	2.9	3.8	2	2.5	11.2	154%	173%	96%	83%	1.218279
2012	2.3	1	0.6	4.9	8.8	122%	46%	29%	162%	0.95722
2013	1.7	1.2	1.6	4.5	9	90%	55%	76%	149%	0.978975
2014	0.6	0.7	1.1	7.8	10.2	32%	32%	53%	258%	1.109505
2015	2.5	1.3	4	1.6	9.4	133%	59%	191%	53%	102%
2016	2.2	1.6	1.7	1.1	6.6	117%	73%	81%	36%	72%
2017	1.4	1.8	2.1	5.4	10.7	74%	82%	100%	179%	116%
2018	0.3	1	2.6	1.7	5.6	16%	46%	124%	56%	61%
2019	3.2	3.7	5.6	2.4	14.9	170%	168%	267%	80%	162%
2020	2.3	1.7	1.3	0.1	5.4	122%	77%	62%	3%	59%
2021	0.3	1.5	0.8	2.2	4.8	16%	68%	38%	73%	52%
<b>Avg</b>	<b>1.88</b>	<b>2.20</b>	<b>2.09</b>	<b>3.02</b>	<b>9.19</b>					

Woods & Eyres Rain Gauge



Allotment Name	Year Determination Completed	Standard 1 (Upland Soils)	Standard 2 (Riparian)	Standard 3 (Native Species/T&E)	Standard 4 (Water Quality)	Causal Factor at the time of the RLH Assessments	Management Action If Livestock Grazing was a Causal Factor	Current Monitoring Data (2009-present)
Bennion Spring	2008	Met	Not Met	Met	Met	<p>Standard 2: Excessive utilization by wildlife (elk and deer) and wild horses</p> <p>Standard 3: Vegetative projects reduced Pinyon and Juniper encroachment moving standard to be Met</p>	NA	Utilization was exceeded on transects indicated on reports in; 2011,2014,2015,2016, 2020. Wild horses and wildlife were contributing in these transects to higher use. Utilization was within acceptable parameters on all transects in 2010, 2012, 2013, 2018, 2019 and 2021. Nested Frequency (long term trend) has been collected at 3 key areas (3-Static)
Bucket Ranch	2007	Met	Met	Not Met	Met	<p>Standard 3: Livestock (Historic and Current), drought, Pinyon and Juniper encroachment</p>	Identified a Grazing Management System – three-year rotation. The grazing rotation would defer livestock use during the critical growing season in the allotment	Utilization has been exceeded on transects in; 2011, 2014 and 2016. 2014 utilization was conducted pre-livestock turnout, due to the utilization levels by wild horses and wildlife the permittee took non-use in 2014. At all sites wild horses were observed and wildlife (elk) sign. Nested frequency (long term trend) has been collected at 2 Key Management Areas (1 – Static and 1 Unrated (baseline data))

Allotment Name	Year Determination Completed	Standard 1 (Upland Soils)	Standard 2 (Riparian)	Standard 3 (Native Species/T&E)	Standard 4 (Water Quality)	Causal Factor at the time of the RLH Assessments	Management Action If Livestock Grazing was a Causal Factor	Current Monitoring Data (2009-present)
Bull Spring	2009	Met	Not Met	Not Met	Met	Standard 2: Drought, water development, Pinyon and Juniper encroachment Standard 3: Drought, excess wild horse use, Pinyon and juniper encroachment	NA	Utilization was exceeded on transects in 2012/2013, 2013/2014 (pre-livestock turnout), 2017, 2019, 2020/2021, 2021/2022. Utilization was within acceptable parameters in 2018. Nested Frequency (long term trend) has been collected at 2 key areas (1-Static & 1 Downward)
Culver Spring	2008	Met	NA	Not Met	NA	Standard 3: Historic livestock grazing	Through analysis of available monitoring data, it was determined that the Culver Spring Allotment had reached an ecological threshold That could not easily be reversed without considerable input of resources. No improvements would be expected long	Utilization was within acceptable parameters in 2009, 2011 & 2016. Only photo plot available from 2017. Photos show dominant sagebrush stand with limited native understory. Key Area (1-Static).

Allotment Name	Year Determination Completed	Standard 1 (Upland Soils)	Standard 2 (Riparian)	Standard 3 (Native Species/T&E)	Standard 4 (Water Quality)	Causal Factor at the time of the RLH Assessments	Management Action If Livestock Grazing was a Causal Factor	Current Monitoring Data (2009-present)
							or short term with changes in season of use, livestock numbers, etc.	
Gold Spring	2008	Not Met	Not Met	Met	Met	Standard 1: Drought (Shrub die off) Standard 2: Wild horse	NA	Utilization was exceeded on transects indicated on reports in; 2013 and 2015 and was within acceptable parameters in 2009, 2011, 2017, 2018 and slight use during mid-season use in 2021. Wild Horses and wildlife were contributing in these transects that exceeded acceptable use levels. The Eight Mile Spring pasture is the only one in the allotment within the Bible Spring Complex and gets minimal livestock use on the BLM portion. No Utilization pattern mapping has been collected in the pasture. Only photos available for key areas. Photo Trend has been collected at 1 key area within the Horse Management Area (1-Static).



Allotment Name	Year Determination Completed	Standard 1 (Upland Soils)	Standard 2 (Riparian)	Standard 3 (Native Species/T&E)	Standard 4 (Water Quality)	Causal Factor at the time of the RLH Assessments	Management Action If Livestock Grazing was a Causal Factor	Current Monitoring Data (2009-present)
Jackson Wash	2009	Met	Not Met	Not Met	Met	<p>Standard 2: Excessive utilization by wildlife (elk and deer) and wild horses</p> <p>Standard 3: Livestock (Historic and Current), wild horse, Pinyon and Juniper encroachment</p>	Identified approximate dates of use for a three-year rotation. The livestock permittee will be required to meet with the CCFO prior to livestock turnout. The grazing management plan will be based on elimination of continuous critical growing season use by livestock within the pastures.	Utilization was exceeded on transects indicated on reports in; 2012, 2013, 2015, 2017, 2020 & 2021 and all transects were within acceptable parameters in 2011 & 2018 wild horses and wildlife were contributing in these transects that exceeded acceptable use levels. Photo Trend has been collected at 1 key area within the Horse Management Area (1-Static)
Jockeys	2011	Met	Not Met	Not Met	Met	<p>Standard 2: Drought, dewatering from development, Pinyon and Juniper encroachment, wild horse and wildlife grazing</p> <p>Standard 3: Pinyon and Juniper encroachment</p>		Utilization was exceeded in 2013, 2014 and 2017. Wild horses and wildlife were contributing in these transects to higher use. Nested frequency (long term trend) has been collected on 3 Key management areas (3 – Static)

Allotment Name	Year Determination Completed	Standard 1 (Upland Soils)	Standard 2 (Riparian)	Standard 3 (Native Species/T&E)	Standard 4 (Water Quality)	Causal Factor at the time of the RLH Assessments	Management Action If Livestock Grazing was a Causal Factor	Current Monitoring Data (2009-present)
Lone Pine Spring	2009	Not Met	Not Met	Met	Met	Standard 1: Flash Flood (Mountain Spring Wash) Standard 2 Livestock (Historic and Current), wild horse, pinyon and juniper encroachment	The Season of use was changed to June 1 <sup>st</sup> – November 30 <sup>th</sup> (removing 15 days of spring use and adding 45 days available for use in the fall) and created a three-pasture deferred rotation system.	Utilization was exceeded on transects indicated on reports in; 2009, 2010, 2011, 2013, 2014 (pre-livestock turnout), 2015, 2017, 2018, 2020 & 2021 and was within acceptable parameters on all transects in 2012, 2016, 2019, Wild horses and wildlife were contributing in these transects that exceeded acceptable use levels. Nested Frequency (long term trend) has been collected at 4 key areas within the allotment. (3-Static, 1-downward)
Lund	2010	Not Met	Not Met	Not Met	Met	Standard 1: Livestock (Historic and Current) and wild horses Standard 2: Wild horse and elk Standard 3: Livestock (Historic and Current) and wild horses	Identified a Grazing Management System- two-year rotation. The grazing rotation would defer livestock use during critical growing season within pastures.	Utilization was exceeded in 2013/2014 and in 2016. Wild horses and wildlife were contributing in these transects that exceeds acceptable use levels. Utilization in 2012/2013 was within acceptable parameters. Two Key areas are within the HMA boundary. Only repeat photos at the Key areas available since only one year of baseline data exists. (1-Static, 1

Allotment Name	Year Determination Completed	Standard 1 (Upland Soils)	Standard 2 (Riparian)	Standard 3 (Native Species/T&E)	Standard 4 (Water Quality)	Causal Factor at the time of the RLH Assessments	Management Action If Livestock Grazing was a Causal Factor	Current Monitoring Data (2009-present)
								downward, based on photos)
Modena Canyon	2008	Met	Met	Met	Met	NA	NA	Utilization was exceeded on transects indicated on reports in; 2015 and was within acceptable parameters on all transects in 2012 & 2018, Wild horses and wildlife were contributing in these transects that exceeded acceptable use levels. No Key Area monitoring sites or photo plots are within the HMA.
Mountain Spring	2009	Not Met	Not Met	Not Met	Met	Standard 1: Livestock (Historic and Current), wild horses and wildlife Standard 2: Wild horse and elk Standard 3: Livestock (Historic and Current), wild horses	The Season of use was changed to June 1 <sup>st</sup> – November 30 <sup>th</sup> (adding 30 days of late fall use) and established a two-pasture flip/flop rotation system.	Utilization was exceeded on transects indicated on reports in; 2011, 2012, 2017, 2018 & 2019 and was within acceptable parameters on all transects in 2015, 2016 & 2021. Wild horses and wildlife were contributing to these transects that exceeded acceptable use levels. Nested Frequency (long term trend) has been collected at 1 key areas within the allotment. (1-Static)
Pine Valley	2009	Met	NA	Met	NA	NA	NA	Utilization was exceeded on transects indicated on reports in; 2010 and was

Allotment Name	Year Determination Completed	Standard 1 (Upland Soils)	Standard 2 (Riparian)	Standard 3 (Native Species/T&E)	Standard 4 (Water Quality)	Causal Factor at the time of the RLH Assessments	Management Action If Livestock Grazing was a Causal Factor	Current Monitoring Data (2009-present)
								within acceptable parameters on all transects in 2015, 2017, 2019, 2020 & 2021. Wild horses were contributing in these transects that exceeded acceptable use levels. Nested Frequency (long term trend) has been collected at 2 key areas within the allotment. (2-Static)
Rosebud	2007	Met	Not Met	Not Met	NA	Standard 2: Wild horse and livestock Standard 3: Pinyon and juniper encroachment	Identified a Grazing Management System- two-year rotation. The public land portion would be used in the spring the first year the following year it would be utilized in the fall. This rotation focuses on improving riparian condition in Rosebud Spring Wash.	Utilization was within acceptable parameters on all transects in 2012, 2013, 2014 & 2020. Nested Frequency (long term trend) has been collected at 1 key areas within the allotment. (1-Static)

Allotment Name	Year Determination Completed	Standard 1 (Upland Soils)	Standard 2 (Riparian)	Standard 3 (Native Species/T&E)	Standard 4 (Water Quality)	Causal Factor at the time of the RLH Assessments	Management Action If Livestock Grazing was a Causal Factor	Current Monitoring Data (2009-present)
Sheep Spring	2009	Met	Not Met	Met	Met	Standard 2: Wild horse, wildlife, upland species encroachment and dewatering from development	NA	Utilization was exceeded on transects indicated on reports in; 2012, 2015, 2016, 2018 & 2020 and was within acceptable parameters in 2010. Wild horses and wildlife were contributing in these transects that exceeded acceptable use levels. Nested Frequency (long term trend) has been collected at 1 key areas within the allotment. (1-downward)
Water Hollow	2009	Met	Met	Not Met	Met	Standard 3: drought conditions, presence of invasive species, current and historic livestock grazing.	Identified a Grazing Management System – Spring pastures encompass 3 pastures managed in a deferred rest rotation and a 4 pasture deferred rest rotation system for the summer/fall grazing.	Utilization was within acceptable parameters from 2012, 2013, 2015, 2016, 2017, 2018, and 2019; however, utilization was exceeded in 2021. Wild horse sign was present within the lime point pasture and wildlife sign was present within the middle seeding pasture. No Key Area monitoring sites or photo plots are within the HMA.
Willow Creek	2008	Met	Met	Met	Met	NA	NA	Utilization was within acceptable parameters in

Allotment Name	Year Determination Completed	Standard 1 (Upland Soils)	Standard 2 (Riparian)	Standard 3 (Native Species/T&E)	Standard 4 (Water Quality)	Causal Factor at the time of the RLH Assessments	Management Action If Livestock Grazing was a Causal Factor	Current Monitoring Data (2009-present)
								2014, 2019, 2020, and 2021. Nested Frequency (long term trend) has been collected at 1 key area within the allotment (1-static).

Note: If it was determined that livestock were a causal factor toward the non-attainment of the Standards and Guidelines changes to livestock grazing were made through the grazing permit renewal process. These changes include livestock reductions, changes to season of use, identification of grazing management systems, changes in kind of livestock, etc....

### **Standards and Guideline Assessments (2007 – 2011)**

Standards and Guideline Assessments have been completed in all the allotments since 2007 in conjunction with grazing permit renewal. Nested frequencies, utilization, Rangeland Health Assessments, actual use, climate, etc... were utilized to determine whether the Standards and Guidelines for Healthy Rangelands were being achieved. If it was determined that livestock were a causal factor toward the non-attainment of the Standards and Guidelines changes to livestock grazing were made through the grazing permit renewal process (see Management Action column). These changes included livestock reductions, changes to season of use, identification of grazing management systems, changes in kind of livestock, etc....

As discussed, grazing permit renewals have been completed within all of the allotments within the Bible Spring Complex. Refer to the following table for information pertaining to the grazing permit renewal completion dates and Environmental Assessment#.

Allotment Name	Permit Renewal		
	Year	EA #	FONSI/Decision Record Date
Bennion Spring	2009	UT-040-08-16	July 6, 2009
Bucket Ranch	2007	UT-040-06-35	October 4, 2007
Bull Spring	2009	UT-040-08-17	October 11, 2009
Culver Spring	2008	UT-040-08-11	September 17, 2008
Gold Spring	2008	UT-040-07-03	April 21, 2008
Jackson Wash	2009	UT-040-08-16	April 1, 2009
Jockeys	2011	DOI-BLM-UT-C010-2011-0031-EA	May 28, 2011
Lone Pine Spring	2009	EA-UT-040-08-15	September 10, 2009
Lund	2010	EA-UT-040-09-14	August 15, 2010
Modena Canyon	2008	UT-040-07-03	April 21, 2009
Mountain Spring	2009	EA-UT-040-08-15	September 10, 2009
Pine Valley	2009	UT-040-08-17	October 11, 2009
Rosebud	2007	UT-040-07-08	August 29, 2007
Sheep Spring	2009	UT-040-08-10	March 26, 2009
Water Hollow	2009	UT-040-08-13	July 30, 2009
Willow Creek	2008	UT-040-06-36	April 30, 2008

## A. Bennion Spring

The Bennion Spring Allotment consists of the following acreage by land ownership status:

ALLOTMENT	PUBLIC ACRES	PRIVATE ACRES	STATE ACRES
Bennion Spring	26,215	13,772	3,981

The following tables illustrate the livestock grazing management system that occurs within the Bennion Spring Allotment.

ALLOTMENT	NUMBER LIVESTOCK	LIVESTOCK KIND	GRAZING BEGIN	GRAZING END	% PL	AUMS
Bennion Spring	300	Cattle	02/01	11/30	36	1076

A deferred grazing management system within Bennion Spring Allotment as detailed below:

Bennion Spring	Dates of Use										
	2/1 -5/15, 10/1 - 11/30					4/15 - 10/31					
	Year 1	9W/9E	Out	8	7	4a	1	3W/3E	2	5	6E/6W
	Year 2	Out	8	9E/9W	7	4c	5	2	3E/3W	1	6W/6E
	Year 3	8	9W/9E	Out	7	6E/6W	4d	3W/3E	1	2	5

### Actual Use Data

YEAR/ALLOTMENT	BENNION SPRING
2021	562
2020	300
2019	881
2018	561
2017	356
2016	720
2015	*1,075
2014	913
2013	*1,075
2012	*1,075
2011	866
2010	773
2009	634
<b>Average</b>	<b>753</b>

\* Actual use not available. AUMs based on number billed on the Rangeland Administrative System (RAS).



## Utilization Data

### a. 2010 Utilization – (Pre-Livestock Turnout)

Utilization data was collected within the Bennion Spring Allotment on August 27, 2010 following the 2010 grazing year. The following table illustrates the livestock use that occurred in the 2010 grazing year.

TRANSECT NUMBER	KEY SPECIES UTILIZATION	
	Crested Wheatgrass	Western Wheatgrass
Transect 2 - Pasture 6W	26%	--

**Transect 2:** This site is dominated Crested Wheatgrass. Grasses were vigorous and seeded out. Wyoming Big Sagebrush and bitterbrush were robust and there was good leader growth. There was wild horse and elk sign present

### b. 2011 Utilization

Utilization data was collected within the Bennion Spring Allotment on September 8, 2011 following the 2011 grazing year. The following table illustrates the livestock use that occurred in the 2011 grazing year.

TRANSECT NUMBER	KEY SPECIES UTILIZATION	
	Crested Wheatgrass	Western Wheatgrass
1 Pasture 1	22%	---
2 Pasture 6W	56%	--
3 Pasture 6E	34%	26%

**Transect 1:** This site was dominated by Crested Wheatgrass with some Sagebrush, and snakeweed.

**Transect 2:** This site is dominated Crested Wheatgrass, with some sagebrush, lupine, Rubber Rabbitbrush, cowenia Mexicana, Gams, and Juniper. Wild horse tracks and droppings fresh and old present, old cow pies.

**Transect 3:** This site is dominated by Crested Wheatgrass and Western Wheatgrass with some Bottlebrush Squirreltail, prickly pear, Wyoming Big Sagebrush, cheatgrass, rabbitbrush, Indian Ricegrass, Juniper, Pinyon, Globemallow and Lupine. Old Cattle, wild horse, coyote, and rabbit droppings observed. Fresh wild horse sign present.

### c. 2012 Utilization

Utilization data was collected within the Bennion Spring Allotment October 1, 2012 following the 2012 grazing year. The following table illustrates the livestock use that occurred in the 2012 grazing year.

Transect Number	Pasture	KEY SPECIES UTILIZATION			
		Galleta Grass	Crested Wheatgrass	Purple Three-awn	Bluebunch Wheatgrass
05118-01-04	1	----	31%	----	----
05118-06-07	6 West	----	49%	----	32%
05118-07-10	7	10%	----	10%	
05118-08-11	8	----	----	29%	----
05118-09-12w	9 West	No-use	----	No-use	----
05118-09-12e	9 East	No-use	----	No-use	----

**05118-01-04:** Crested wheatgrass comprises the Key Species at this site. Other species present include: Wyoming Big Sagebrush, Blue Grama, and Sand Dropseed. Perennial grasses show good vigor on the site. This site has received light grazing pressure. Fresh cattle sign was not present on the site.

**05118-06-07:** Crested Wheatgrass and Western Wheatgrass comprise the Key Species at this site. Other species present include: Wyoming Big Sagebrush, Rubber Rabbitbrush, bitterbrush, Utah Juniper, and pinion pine. Perennial grasses show good vigor on the site. This site has received light/moderate grazing pressure. Fresh cattle sign was present on the site.

**05118-07-10:** Galleta Grass and Purple Three-Awn comprise the Key Species at this site. Other species present include: Wyoming Big Sagebrush, cheatgrass, Sand Dropseed, Cholla, Fourwing Saltbush, Green Rabbitbrush, Bottlebrush Squirreltail, Ephedra, Little-Leaf Horsebrush, Indian Ricegrass, Blue Grama, and Globemallow. Cheatgrass and Cholla cactus are very abundant on the site. Recruitment of Wyoming Big Sagebrush was apparent. Perennial grasses show fair vigor and lacks abundance on the site. Warm season grasses are far more abundant than cool season grasses. This site has received slight grazing pressure. Fresh cattle sign was present on the site.

**05118-08-11:** Purple three-awn comprises the Key Species at this site. Other species present include: galleta, Wyoming Big Sagebrush, cheatgrass, Sand Dropseed, Cholla, Fourwing Saltbush, Green Rabbitbrush, Bottlebrush Squirreltail, Ephedra, Little-Leaf Horsebrush, Indian Ricegrass, Blue Grama, and Globemallow. Cheatgrass and Cholla cactus are very abundant on the site. Recruitment of Wyoming Big Sagebrush was apparent. Perennial grasses show fair vigor and lacks abundance on the site. Warm season grasses are far more abundant than cool season grasses. This site has received light grazing pressure. Fresh cattle sign was present on the site.

**05118-09-12w:** Galleta Grass and Purple Three-Awn comprise the Key Species at this site. Other species present include: Sand Dropseed, Cholla, Black Sagebrush, Spiny Hopsage, Winterfat, Green Rabbitbrush, Indian Ricegrass, Blue Grama, and Globemallow. Perennial grasses show high vigor and are abundant on the site. Grazing use was not apparent at the site. Fresh cattle sign was not present on the site.

**05118-09-12e:** Galleta Grass and Purple Three-Awn comprise the Key Species at this site. Other species present include: Sand Dropseed, Cholla, Black Sagebrush, Spiny Hopsage, Winterfat, Green Rabbitbrush, Indian Ricegrass, Blue Grama, and Globemallow. Perennial grasses show high vigor and are abundant on the site. Grazing use was not apparent at the site. Fresh cattle sign was not present on the site.

#### **d. 2013 Utilization**

Utilization data was collected within the Bennion Spring Allotment following the 2013 grazing year. The following table illustrates the livestock use that occurred in the 2013 grazing year.

Transect Number	Pasture	KEY SPECIES UTILIZATION				
		Galleta Grass	Crested Wheatgrass	Needle-and-thread	Bottlebrush Squirrextail	Intermediate Wheatgrass
05118-01-04	1	----	19%	----	----	----
Transect #1	1	----	30%	----	----	----
Transect #2	3 West	----	11%	5%	----	3%
Transect #3	3 East	----	9%	----	----	3%
05118-06-07	6 West	----	33%	----	----	----
Transect #4	6 East	----	17%	----	----	----
05118-08-11	8	----	----	----	42%	----
Transect #5	8	3%	----	----	----	----
05118-09-12	9 East	No-use	----	No-use	----	----
Transect #6	9 West	No-use	----	No-use	----	----

**05118-01-04:** Crested wheatgrass comprises the Key Species at this site. Other species present include: Wyoming Big Sagebrush, Blue Grama, and Sand Dropseed. Perennial grasses show good vigor on the site. This site has received light grazing pressure. Fresh cattle sign was not present on the site.

**05118-06-07:** Crested wheatgrass and Western Wheatgrass comprise the Key Species at this site. Other species present include: Wyoming Big Sagebrush, Rubber Rabbitbrush, Bitterbrush, Utah Juniper, and Pinion Pine. Perennial grasses show good vigor on the site. This site has received light/moderate grazing pressure. Fresh cattle sign was present on the site.

**05118-07-10:** Galleta Grass and Purple Three-Awn comprise the Key Species at this site. Other species present include: Wyoming Big Sagebrush, cheatgrass, Sand Dropseed, Cholla, Fourwing Saltbush, Green Rabbitbrush, Bottlebrush Squirreltail, Ephedra, Little-Leaf Horsebrush, Indian Ricegrass, Blue Grama, and Globemallow. Cheatgrass and Cholla cactus are very abundant on the site. Recruitment of Wyoming Big Sagebrush was apparent. Perennial grasses show fair vigor and lacks abundance on the site. Warm season grasses are far more abundant than cool season grasses. This site has received slight grazing pressure. Fresh cattle sign was present on the site.

**05118-08-11:** Purple three-awn comprises the Key Species at this site. Other species present include: galleta, Wyoming Big Sagebrush, cheatgrass, Sand Dropseed, Cholla, Fourwing Saltbush, Green Rabbitbrush, Bottlebrush Squirreltail, Ephedra, Little-Leaf Horsebrush, Indian Ricegrass, Blue Grama, and Globemallow. Cheatgrass and Cholla cactus are very abundant on the site. Recruitment of Wyoming Big Sagebrush was apparent. Perennial grasses show fair vigor and lacks abundance on the site. Warm season grasses are far more abundant than cool season grasses. This site has received light grazing pressure. Fresh cattle sign was present on the site.

**05118-09-12w:** Galleta Grass and Purple Three-Awn comprise the key species at this site. Other species present include: Sand Dropseed, Cholla, Black Sagebrush, Spiny Hopsage, Winterfat, Green Rabbitbrush, Indian Ricegrass, Blue Grama, and Globemallow. Perennial grasses show high vigor and are abundant on the site. Grazing use was not apparent at the site. Fresh cattle sign was not present on the site.

**05118-09-12e:** Galleta Grass and Purple Three-Awn comprise the Key Species at this site. Other species present include: Sand Dropseed, Cholla, Black Sagebrush, Spiny Hopsage, Winterfat, Green Rabbitbrush, Indian Ricegrass, Blue Grama, and Globemallow. Perennial grasses show high vigor and are abundant on the site. Grazing use was not apparent at the site. Fresh cattle sign was not present on the site.

#### e. 2014 Utilization

Transect # Number	Pasture	KEY SPECIES UTILIZATION	
		Wheatgrass Species	Indian Ricegrass
upper	Wilson canyon	62%	---
lower	Wilson Canyon	65%	70%

**Upper transect:** 5 to 7" of new growth in cage, Species present Wyoming Big Sagebrush, Utah Juniper, Rubber Rabbitbrush, Primrose, Prickly Pear Cactus, Cheatgrass, and forbs. Down to the nubbins on old growth, green up available ½" to 2". Wild horses are keeping grass component very short and well grazed. Elk and horse sign present. A Wild horse and elk sign including trailing and tracks were abundant throughout the area. Eight or more bands of wild horses spotted from this key area location totaling approximately 47 head.

**f. 2015 Utilization**

**Grazing Year Utilization Transect results are as follows:**

TRANSECT # NUMBER	PASTURE	KEY SPECIES UTILIZATION					
		Crested Wheatgrass	Bottlebrush Squirreltail Grass	Galleta Grass	Purple Three-Awn	Sand Dropseed	Indian Ricegrass/ Needle and Threadgrass
Transect #1	1	10%	----	----	----	----	----
Transect #2	1	4%	----	----	----	----	----
05118-06-07	6 West	79%	----	----	----	----	----
05118-11-15	6 East	37%	53%	----	----	----	----
05118-07-10	7	----	----	34%	----	----	----
05118-08-11	8	----	----	----	17%	57%	
05118-12-12	9 East	----	----	----	----	----	34%
05118-09-13	9 West	----	----	11%	----	12%	8%

**Bennion Spring (Transect 1):** This transect is approximately 300 meters from KA 01-04 there is no road available that takes you directly to KA. The dominant perennial grass is crested wheatgrass with an un-grazed height of 8-12”, the health, vigor and seed production is good. Little cow sign and very light use was recorded.

**Bennion Spring (Transect 2):** The dominant perennial grass is crested wheat grass with an un-grazed height of 8-14” the health, vigor and seed production is good. There is very little sign of use from both cattle and wild horses.

**Bennion Spring (05118-06-07):** The site was within a key area. The dominant perennial grass was crested wheat grass with thinly scattered bunches of purple three awn and sand drop seed. Health, vigor and seed production of crested wheat grass was poor with an un-grazed height of 5-10”. Only seed heads available were grasses caged within the canopy of Wyoming Big Sagebrush. Excessive amounts of rabbit brush and broom snakeweed are present with young juniper encroaching back onto the site. Majority of use was from wild horses.

**Bennion Spring (05118-11-15):** The dominant perennial grass located within the key area is bottle brush squirrel tail and crested wheat grass most key species grasses are caged within the Wyoming Big Sagebrush and have little use. The grasses within interspaces have been heavily-severely grazed by wild horses. The health, vigor and seed production of key species grasses is poor with an un-grazed height of 8-15” (Crested Wheatgrass) and 6-10” (Bottlebrush Squirreltail Grass).

**Bennion Spring (05118-7-10):** The dominant perennial grass within this key area is Galleta Grass its health, vigor and seed production is poor and has an un-grazed height of 8-10” There has been an increased conversion of cool to warm season grasses in the area. Almost all use within this pasture was from wild horses. There is also excessive amounts of Cholla cactus and broom snakeweed that have become invasive.

**Bennion Spring (05118-8-11):** The dominant perennial grass within this key area is sand drop seed with scattered bunches of galleta grass, bottle brush squirrel tail and purple-three-awn. The un-grazed height of sand drop seed is 8-10”. There is a definite dominate presence of warm season grass with Cholla cactus being the dominant shrub component. There was 60+ head of wild horses in this pasture but were recently moved out by helicopter coordinated by Chad Hunter (Wild Horse Specialist). High horse use was evident by undesirable species being grazed including: Blue Grama and Purple Three-Awn.

**Bennion Spring (05118-12-12):** The dominant perennial grass within the key area is needle and thread with scattered bunches of Indian rice grass and sand drop seed. Some cool to warm season grass conversion is evident on site. The un-grazed height of needle and thread is 12-18” and Indian rice grass 8-10” tall. Broom snakeweed and rabbit brush are excessive. This KA is a fence line contrast to the adjacent KA 09-13 located in pasture 9 West. There was recent cattle sign present on site.

**Bennion Spring (05118-9-13):** The dominant perennial key species grasses within the area are sand drop seed, needle and thread and galleta with an un-grazed height of 8-10” (sand drop seed and needle and thread). The overall health, vigor and seed production of key grass species is fair with some cool to warm season grass conversion. There is an excessive amount of broom snakeweed present. Little cattle sign present and very little use evident in the area.

#### g. 2016 Utilization

TRANSECT # NUMBER	PASTURE	KEY SPECIES UTILIZATION			
		Purple Three-Awn	Sand Dropseed	Indian Ricegrass/Needle and Threadgrass	Galleta Grass
05118-08-11	8	11%	53%	----	----
05118-09-12	9 East	----	----	8%	----
05118-09-13	9 West	----	18%	----	5%
05118-07-10	7	----	----	----	51%

**Bennion Spring (05118-08-11):** No recent horse sign along transect. Had problems with wild horses getting into pasture from gates being left open in the past. Two wild horses were along the pasture fence to the east but on the state section. This pasture has low diversity of perennial grasses but still has productive Sand Dropseed. Purple Three-Awn is starting to compete with Sand Dropseed. SIAL and Cheatgrass also have an invasive presence within the pasture. Majority of Sand Dropseed has been moderately grazed and didn’t produce seed.

**Bennion Spring (05118-09-12):** Actual use shows cattle were in pasture the end of March to early April, pasture is mostly private. Indian Ricegrass and Needle and Thread Grass are the dominant perennial grass and found in prevalent amounts, showing excellent health and vigor. Pasture was used before and after growing season 2016 and is in good condition. Some antelope and rabbit sign indicate species use.

**Bennion Spring (05118-09-13):** No recent cattle sign, this pasture has small parcel of BLM within the private pasture. Some horse sign. Area is covered with Galleta Grass and scattered bunches of Sand Dropseed which is the desirable species being utilized.

**Bennion Spring (05118-07-10):** All use is from wild horses, 17 wild horses counted near transect. Horse sign is prevalent. Purple Three-Awn and Galleta Grass are the only perennial grasses and being over utilized. Some SPCO and Wyoming Big Sagebrush but has been grazed down to stems and dirt due to constant horse use. Forage is also limited because most of the pasture is on steppe terrain covered by pinyon and juniper.

#### **h. 2018 Utilization**

TRANSECT # NUMBER	PASTURE	KEY SPECIES UTILIZATION			
		Purple Three-Awn	Sand Dropseed	Indian Ricegrass/Needle and Threadgrass	Galleta Grass
Transect 1	9 east	16%	26%	----	----
Transect 2	8	----	----	----	8%
Transect 3	8	8%	----	----	5%
Transect 4	7	----	----	45%	3%
Transect 5	7	23%	----	----	26%

**Bennion Spring (T1):** This pasture only has a small portion of BLM, no cow are currently in the pasture, and all sign is old. The majority of perennial grass is Sand Dropseed, mixed with Galleta Grass and Purple Three-Awn. Majority of Sand Dropseed did not produce seed heads and is extremely short which is most likely a result of an extremely dry year with cattle use before warm season grass growing season.

**Bennion Spring (T2):** Very little old horse and cattle sign, this transect is located in a dense patch of Wyoming Big Sagebrush that makes up a portion of this pasture before the area is dominated by perennial grasses. Indian Ricegrass is few and scattered, which has resulted in them being grazed heavily. Lot of recruitment from sagebrush.

**Bennion Spring (T3):** Perennial grass is a mixture of galleta grass and Purple Three-Awn, with some Sand Dropseed, Cholla cactus has replaced the Wyoming Big Sagebrush where disturbance has occurred. Cattle sign is all old.

**Bennion Spring (T4):** No cattle sign, this portion of pasture rarely is utilized by livestock, with no livestock water nearby and the majority of the pasture is steppe with pinyon and juniper. Horse

sign is apparent, galleta grass is the dominant grass, but Indian Ricegrass is the desirable species being utilized which is limited.

**Bennion Spring (T5):** In the past, this part of the pasture has seen heavy horse use. Horse use is not as heavy this year but can tell from past use and the drought year that fall grasses are extremely short, with Purple Three-Awn being the most prevalent perennial grass, with little seed production. Majority of horse sign appears to be old with some old cattle sign.

#### i. 2019 Utilization

TRANSECT # NUMBER	PASTURE	KEY SPECIES UTILIZATION					
		Purple Three-Awn	Sand Dropseed	Indian Ricegrass	Galleta Grass	Bottlebrush Squirrealtail Grass	Crested Wheatgrass
Transect 1	9 east	No Use					
Transect 2	8	----	----	----	18%	12%	----
Transect 3 (KA)	8	17%	36%	----	----	----	----
Transect 4	7	----	----	46%	21%	----	----
Transect 5 (KA)	7	11%	----	----	34%		----
Transect 6	6 East	----	----	----	----	----	25%
Transect 7	6 West	----	----	----	----	----	30%
Transect 8	1	----	----	----	----	----	27%

**Bennion Spring (T1):** This part of the pasture is dominated by Cheatgrass with very few perennial bunch grasses present that can compete with the invasive. A few small patches of Wyoming Big Sagebrush that has some Galleta Grass in the interspaces. Not enough perennial to calculate use. Perennials encountered along the transect had no use.

**Bennion Spring (T2):** This portion of the pasture still has a stand of Wyoming Big Sagebrush. The most prevalent perennial grass is Galleta grass, with some bunches of Bottlebrush squirreltail Grass restricted to the canopy of shrubs. Some bunches of Purple Three-Awn.

**Bennion Spring (T3):** Large crop of Cheatgrass from good spring moisture events. Sand Dropseed is the most prevalent perennial grass. CHOLLA has replaced Wyoming Big Sagebrush, from a disturbance event that must have happened years ago. Not a lot of cattle or horse manure. 50-60 head of pronghorn have been in this transect location. Currently, there is 10-15 pronghorn present.

**Bennion Spring (T4):** The most prevalent perennial grass is Galleta Grass. Indian ricegrass is present but limited. No cattle manure but a lot of old and recent horse sign. Good stand of Wyoming Big Sagebrush with a mix of GUSA2 and CHVI8.

**Bennion Spring (T5):** Horses tend to hang out in this corner of the pasture. No recent horse manure along the transect, but fresh tracks in the road. No sign of cow manure. Perennial grasses



are limited, Galleta Grass being the most prevalent. Cheatgrass has become invasive. SPCO is also present at this site and notices is being utilized by wild horses.

**Bennion Spring (T6):** Still some snow cover. This will manipulate some of the utilization percentages since the majority of the grasses in open spaces were in the canopy of the shrubs. Horse manure and elk scat were present. But not a lot of fresh tracks since the last snowstorm. No sign of cattle use. The most prevalent perennial grass is Crested Wheatgrass with scattered bunches of ELEM. Percentages are expected to be higher if snow was melted but would most likely still be light use at this site.

**Bennion Spring (T7):** I counted 5 wild horses on the hill north of the transect location. Horses tend to hang out in this location and on hill with south facing slope. Perennial grasses are more prevalent than the last transect. The dominant grass is Crested Wheatgrass with some Intermediate Wheatgrass mixed in. Some snow cover still in this area, but less than last site.

**Bennion Spring (T8):** This pasture consists of a monoculture of Crested Wheatgrass. The majority still have seed heads and set seed. The overall health and vigor are excellent mixed with a healthy stand of Wyoming Big Sagebrush. Utilization was done near the southeast corner of the pasture where cattle sometimes congregate. Utilization in most of the pasture would have less use than this transect.

#### j. 2020 Utilization

TRANSECT # NUMBER	PASTURE	KEY SPECIES UTILIZATION					
		Crested Wheatgrass	Sand Dropseed	Indian Ricegrass	Galleta Grass	Bottlebrush Squirreltail Grass	Crested Wheatgrass
Transect 1	6 East	16%	----	----	----	----	----
Transect 2	6 West	56%	----	----	----	----	----
Transect 3	1	14%	----	----	----	----	----
Transect 4	1	29%	----	----	----		----

**Bennion Spring (T1):** No sign of livestock uses along the transect. Some horse sign but not recent. Crested Wheatgrass is the most prevalent perennial grass but is mostly restricted to the canopy of sagebrush. Grass in interspaces is sparse with the majority not producing seed heads.

**Bennion Spring (T2):** Very little old cattle sign along the transect. Old and recent horse sign is abundant. Crested Wheatgrass is the prevalent grass showing poor vigor and had little seed production.

**Bennion Spring (T3):** Not a lot of fall cattle use in this part of the pasture. The perennial grass in this pasture consists of a monoculture of Crested Wheatgrass that showed good seed production, especially for the drought conditions. No sign that wild horses have used the area.

**Bennion Spring (T4):** Similar to the last transect, however closer to water trough. Still shows minimal livestock use. Fresh scat and tracks present from a group of antelope.

#### k. 2021 Winter Utilization

TRANSECT # NUMBER	PASTURE	KEY SPECIES UTILIZATION					
		Crested Wheatgrass	Sand Dropseed	Indian Ricegrass	Galleta Grass	Bottlebrush Squirreltail Grass	Crested Wheatgrass
Transect 1	9 East	----	22%	----	19%	----	----
Transect 2	8	----	----	----	21%	23%	----
Transect 3	8	----	30%	----	----	----	----
Transect 4	8	----	----	----	23%	----	----

**Bennion Spring (T1):** This pasture only has a small half section of BLM within the pasture. Most of the pasture consists of cheatgrass, with patches of Sand Dropseed and galleta. No winter cattle use.

**Bennion Spring (T2):** Most of the utilization is from winter cattle use. No sign of horse along the transect and minimal wildlife sign. This transect is within an old stand of sagebrush, while most of the pasture was burned years ago and lacks sagebrush.

**Bennion Spring (T3):** Some use appears to be from the fall. Some bunches of Sand Dropseed show extremely poor health, it looks decadent, and the roots are totally dried up and can be pulled from the ground, most likely from the last few years of persistent drought conditions. Cheatgrass and tumble mustard are the most prevalent vegetation in this part of the pasture.

**Bennion Spring (T4):** This transect was west off the road and back in a patch of Wyoming sagebrush that was not burned by fire. The understory mostly consists of warm season grasses that show poor health from drought conditions.

#### B. Bucket Ranch Allotment

The Bucket Ranch Allotment consists of the following acres:

ALLOTMENT	PUBLIC ACRES	STATE ACRES	PRIVATE ACRES
Bucket Ranch	20,905	12,749	197

The following tables illustrate the livestock grazing management system that occurs within the Bucket Ranch Allotment.

ALLOTMENT	NUMBER OF LIVESTOCK	KIND OF LIVESTOCK	SEASON OF USE	PERCENT PUBLIC LAND	AUMS
Bucket Ranch	335	Cattle	06/01-09/30	25%	307

The livestock permittee would manage the North Blawn Wash, South Blawn Wash, and Wah Wah Pasture that are primarily SITLA lands in a rest rotation. The Willow Creek pasture of the Bucket Ranch Lambing Allotment would become part of the South Blawn pasture of the Bucket Ranch Allotment. This rotation would be as follows:

Season of Use	June1-July25	August 30-September 30	Rest
Year 1 Pasture	North Blawn	South Blawn	Wah Wah
Year 2 Pasture	Wah Wah	North Blawn	South Blawn
Year 3 Pasture	South Blawn	Wah Wah	North Blawn

The Native pasture would be split in to two different use areas. Bucket Ranch Lambing's North, Middle, and Lambing pastures would become part of Bucket Ranch's Native pasture North use area. The rest rotation on the use areas would be.

Season of Use	July 26-August 30	Rest
Year 1 and 3	South Native	North Native
Year 2	North Native	South Native

#### Actual Use Data

YEAR/ALLOTMENT	BUCKET RANCH
2021	Non Use
2020	172
2019	53
2018	10
2017	15
2016	Non Use
2015	Non Use
2014	Non Use*
2013	22
2012	212
2011	114
2010	122*
<b>Average</b>	<b>57</b>

Note: \*denotes Actual Use found on RAS database.

#### a. 2011 Utilization

Utilization data was collected within the Bucket Ranch Allotment on November 17, 2011 following the 2011 grazing year. The following table illustrates the livestock use that occurred in the 2011 grazing year.

Transect Number	Pasture	KEY SPECIES UTILIZATION				
		Crested Wheatgrass	Indian Ricegrass	Needle-and-Thread	Bluegrass	June Grass
Key Area 1	Native	34%	38%	----	----	----
Transect 2	Wah-Wah	32%	----	12%	----	----
Transect 3	Native	50%	----	----	52%	56%

**Key Area 1:** Crested wheatgrass was the dominant perennial grass present within the area. Old wild horse sign was present within the area. Livestock sign was present throughout the area.

**Transect 2:** Needle-and-thread, Indian Ricegrass and Intermediate wheatgrass were the dominant perennial grasses present. Wild horse, livestock and elk sign were present within the area.

**Transect 3:** Bluegrass, June grass and Crested wheatgrass were present in the area. Livestock sign was present within the area. There was no fresh wild horse sign within the area.

**b. 2014 Utilization (Pre-livestock)**

Utilization data was collected within the Bucket Ranch Allotment on April 17, 2014 prior to the 2014 grazing year. The following table illustrates the livestock use that prior to the 2014 grazing year. Permittee took non-use in 2014.

Transect Number	Pasture	KEY SPECIES UTILIZATION
		Crested Wheatgrass
06231-03-01	Native	72%
Transect #1	Wah-Wah	62%
Transect #2	Native	47%

**06231-03-01:** The site is part of a seeding and is dominated by crested wheatgrass. Heavy grazing was apparent. Utilization was measured using previous-year's growth; not current green-up. Cattle sign was present, but was not fresh. Fresh wild horse and elk sign were abundant, and wild horses were observed nearby. There was some pedestalling apparent around bunchgrasses. Crested Wheatgrass displayed good vigor and the new growth was approximately 2-4" tall throughout the area. Some Ephedra plants in the area were severely hedged.

**Transect #1:** The site is part of a seeding and is dominated by Crested Wheatgrass. Some Indian Ricegrass was also observed, but was not abundant. Heavy grazing was apparent. Utilization was measured using previous-year's growth; not current green-up. Cattle sign was present, but was old. Fresh wild horse and elk sign were abundant, and wild horses were observed nearby. There was some pedestalling apparent around bunchgrasses. Crested Wheatgrass displayed good vigor and the new growth was approximately 2-4" tall throughout the area. Some Ephedra plants in the area were severely hedged.

**Transect #2:** The site higher elevation than the previous two sites and is located outside the large chaining/seeding that the previous two sites are located in. The site is between the chaining/seeding and just below the dense trees to the west in the Native Pasture. The site is largely dominated by Wyoming Big Sagebrush with sparse pinion/juniper trees. The interspaces have very sparse amounts of crested wheatgrass and Indian Ricegrass. Utilization was measured using previous-year's growth; not current green-up. Wild horse and elk sign were present. Crested wheatgrass and Indian Ricegrass displayed good vigor and the new growth was approximately 2-4" (Crested Wheatgrass) and 4-6" (Indian Ricegrass) tall throughout the area.

### c. 2016 Utilization

Utilization data was collected within the Bucket Ranch Allotment on November 8, 2016 following the 2016 grazing year. The following table illustrates the livestock use that occurred in the 2016 grazing year.

Transect Number	Pasture	KEY SPECIES UTILIZATION
		Crested Wheatgrass
06231-03-01	Wah-Wah	52%
Transect #1	Native	48%
Transect #2	Native	57%

**Transect #1:** The site is part of a seeding and is dominated by crested wheatgrass. Had areas of Heavy grazing were apparent. Utilization was measured using previous-year's growth; not current green-up. Fresh Cattle, Wild Horse and elk sign were abundant. Crested wheatgrass displayed good vigor and the new growth was approximately 2-4" tall throughout the area.

**Transect #2:** The site is part of a seeding and is dominated by crested wheatgrass. Some Indian Ricegrass was also observed, but was not abundant. Utilization was measured using previous-year's growth; not current green-up. Cattle sign was present, but was not fresh. Fresh Wild Horse and elk sign were abundant, and wild horses were observed nearby. There was some pedestalling apparent around bunchgrasses. Crested wheatgrass displayed good vigor and the new growth was approximately 2-4" tall throughout the area. Some bitterbrush plants in the area were severely hedged.

**Transect #3:** The site is part of a seeding and is dominated by Crested Wheatgrass. Utilization was measured using previous-year's growth; not current green-up. Cattle, wild horse and elk sign were present and fresh. Crested Wheatgrass displayed good vigor and the new growth was approximately 2-4" (Crested Wheatgrass) tall throughout the area. Some Ephedra plants in the area were severely hedged.

### C. Bull Spring Allotment

The Bull Spring Allotment consists of the following acres:

Allotment	Public Land	State Land	Private Land
Bull Spring	21,207	1,357	634

The following tables identify the grazing management system within the Bull Spring Allotment.

ALLOTMENT	NUMBER OF LIVESTOCK	KIND OF LIVESTOCK	SEASON OF USE	PERCENT PUBLIC LAND	AUMS
Bull Spring	130	Cattle	6/1-2/28	94%	1097

#### Actual Use Data

YEAR/ALLOTMENT	BULL SPRING
2021	502
2020	617
2019	812
2018	904
2017	955
2016	923
2015	477
2014	769
2013	404
2012	534
2011	667
<b>Average</b>	<b>687</b>

The Bull Spring Pasture rotation will be as follows:

#### Year 1

Season of Use	June 1 – July 15	July 16 – September 15	September 16 – October 31	November 1 - February 28
Pasture	Blue Mountain	Corral	All Three	East

#### Year 2

Season of Use	June 1 – July 15	July 16–September 15	September 16–October 31	November 1-February 28
Pasture	East	Blue Mountain	Corral	East & Corral

#### Year 3

Season of Use	June 1 – July 15	July 16–September 15	September 16–October 31	November 1-February 28
Pasture	Corral	East	Blue Mountain	All Three

### a. 2012-2013 Utilization

Utilization data was collected within the Bull Spring Allotment on April 23, 2013 following the 2013 grazing year. The following table illustrates the livestock use that occurred in the 2013 grazing year.

Transect Number	Pasture	KEY SPECIES UTILIZATION		
		Indian Ricegrass	Galleta Grass	Winterfat
05120-01	East Bench	58%	39%	55%
05120-06	Corral	77%	----	----
05120-02	Blue Mountain	51%	----	----
05120-03	East Bench	61%	----	----

**05120-01:** Indian Ricegrass, Winterfat and galleta grass comprises the Key Species at this site. Other species present include: Cheatgrass, Rabbitbrush, Brigham Tea, Prickly Pear. Perennial grasses are greening up Indian Ricegrass has 5 to 8” of new growth; some of the centers of Indian Ricegrass plants are dying out. The soil is wet 3”down. Winterfat is getting new leader growth, old sign of cow tracks and dung.

**05120-KA6:** Indian Ricegrass comprises the Key Species at this site. Other species present include: Fourwing, Wyoming Big Sagebrush, Rabbitbrush, Galletta Grass, Brigham Tea, Prickly Pear. No sign of soil movement. Fresh wild horse tracks, trailing and lots of wild horse sign present. Elk sign present as well. Old cattle sign.

**05120-02:** Indian Ricegrass comprises the Key Species at this site. Other species present include: rabbitbrush, Black Sagebrush, Winterfat, Cheatgrass and Galletta Grass. No sign of soil erosion present. Badger holes present. Most use recorded was wild horse and antelope by this location, fresh wild horse sign, tracks and dung present. Some cow tracks present but older. No water in trough or pond adjacent to this location. Grasses not as abundant more browse with some grass in interspaces.

**05120-KA3:** Indian Ricegrass comprises the Key Species at this site. Other species present include: Rabbitbrush, Black Sagebrush, Prickly Pear, Cheatgrass, Galletta grass and Utah Juniper encroachment. Indian Ricegrass has 5 to 12” if new growth. All sign appears to be wild horse and antelope use. Wild horse and antelope tracks and dung present. No sign of soil erosion. Old cow sign does not appear to be this past grazing season. Coming up the draw there was quite a bit of fresh cattle sign under the Juniper but no fresh sign of cattle use in this location.

### b. 2013 Utilization

Utilization data was collected within the Bull Spring Allotment on April 9, 2014 following the 2013 grazing year. The following table illustrates the livestock use that occurred in the 2013 grazing year.

Transect Number	Pasture	KEY SPECIES UTILIZATION				
		Indian Ricegrass	Crested Wheatgrass	Intermediate Wheatgrass	Galleta Grass	Forage Kochia
Transect 1	Corral	67%	73%	-----	55%	77%
Transect 2	Corral	55%	61%	60%	-----	-----

**Transect 1 (Corral Pasture):** The site is in the Broken Ridge 2006 Emergency stabilization and rehabilitation area. Utilization was collected on old growth or last year's growth. The site has limited residual growth. The current growth or green up is around 3 inches tall and shows very slight use. There are wild horse and elk tracks and feces throughout the site. 6 head of wild horses were seen in the allotment.

**Transect 2 (Corral Pasture):** The site is in the Broken Ridge 2006 Emergency stabilization and rehabilitation area. Utilization was collected on old growth or last year's growth. Residual growth is limited. The current growth or green up is around 3 inches tall and shows very slight use. Bare ground is minimal due to the abundance of grasses and forbs. Wild horse and elk tracks and feces were seen throughout the site. 6 head of wild horses were seen in the allotment.

### c. 2017 Utilization

TRANSECT # NUMBER	PASTURE	KEY SPECIES UTILIZATION				
		Indian Ricegrass	Winterfat	Galleta Grass	Crested Wheatgrass	Indian Ricegrass/Needle and Threadgrass
05120-01-01	East Bench	38%	36%	21%	----	----
Transect #1	East Bench	52%	34%	20%	----	----
Transect#2 KA 02-03	Blue Mountain	34%	----	----	----	----
Transect#3 KA 03-10	Corral	No Available Forage				----
Transect#4	Corral	----	----	----	49%	47%

**Bull Spring (05120-01-01):** Eight wild horses counted near transect. , Indian Ricegrass and Winterfat are the main key species being utilized with some use on galleta. Approximately eight wild horses are present near the powerline in this area. Cheatgrass and Green Rabbitbrush are starting to become invasive throughout the pasture. Overall the health and vigor of key species is fair. Un-grazed Indian Ricegrass average height is 8-12".



**Bull Spring (Transect #1):** 8 wild horses and 2 cows on east bench fence line to the east. Galleta Grass is the most prevalent key species with scattered bunches of Indian Ricegrass and Winterfat spread throughout. Pasture needs to be rested during growing season. Wild horses are becoming an issue on this pasture pushing down from the west for better feed. Overall key species show fair health and vigor.

**Bull Spring (Transect #2):** No Cattle sign, Black Sagebrush is the most prevalent shrub with Indian Ricegrass between the interspaces. Sign shows some horse use. Gate was down that comes into pasture from the main road. Overall health and vigor of Indian rice grass is good but not as abundant as it should be. Lots of young Black Sagebrush is in the pasture. Four wild horse were counted on the east side of the pasture.

**Bull Spring (Transect #3):** Only horse and rabbit use, Blue Grama is only perennial grass, showing poor health growing short and not being utilized. Horses and rabbits have utilized the rabbitbrush and sagebrush in this area. No forage for livestock.

**Bull Spring (Transect #4):** Majority of use has been from wild horses. A mix of Indian Ricegrass, needle and thread grass and crested wheatgrass make of the perennial grass component in the pasture. Majority of grasses appear to get repeated use from wild horses and show poor health and don't produce seed heads.

#### d. 2018 Utilization Pre-Turnout

TRANSECT # NUMBER	PASTURE	KEY SPECIES UTILIZATION				
		Bluebunch Wheatgrass	Russian Wildrye	Western Wheatgrass	Crested Wheatgrass	Indian Ricegrass/Needle and Threadgrass
T#1	Corral	----	5%	4%	7%	10%
T#2	Corral	5%	11%	20%	9%	2.5%
T#3	Corral	----	19%	10%	21%	14%

**Bull Spring T#1:** This transect falls within part of the seeding on the Corral pasture. Indian Ricegrass & Needle and Thread Grass both show good seed production, with the rest of the desirable perennial species showing fair seed head production. No cows have been turned out on this pasture yet this summer. Some old horse sign present, more recent pronghorn sign. Five pronghorn present at the transect.

**Bull Spring T2:** No cows turned out. Both old wild horse, elk and some pronghorn sign is evident. This site also shows good seed head production on both Indian Ricegrass & Needle and Thread Grass, Western Wheatgrass is also abundant at this site and shows good seed head development. This site was part of an old chaining and seeding and has tons of young trees starting to come back.

**Bull Spring T3:** This site is also part of an old chaining and seeding, not sure on year of treatment. However, young trees and sagebrush are starting to choke out established perennial grasses. I spotted three horses near the tree line. More sign of wild horse and elk in this area. Can see that the area has had more grazing pressure in the past. Perennial grasses are short in this area and seed production is poor.

**Summary:** The Corral pasture has the most forage production within the entire Bull Spring allotment due to treatments and fires that have been re-seeded over time. No cows have been turned out in this pasture yet. All use is from wildlife and wild horses. Wild horse gathers have occurred within this last year helping relieve some grazing pressure. Not a lot of sign of spring use and only spotted three wild horses when I drove through on the Bull Spring side. An abundance of little trees are starting to make their way back into the seeding, especially within the chaining portion; trees will need to be removed to help keep the seeding successful.

**e. 2018 Utilization East Bench**

TRANSECT # NUMBER	PASTURE	KEY SPECIES UTILIZATION				
		Galleta Grass	Needle and Threadgrass	Bottlebrush Squirreltail Grass	Indian Ricegrass	Indian Ricegrass/Needle and Threadgrass
T#1	East Bench	----	----	----	----	8%
T#2	East Bench	2.5%	2.5%	2.5%	2.5%	2.5%

**Bull Spring T#1:** No sign of spring or summer cattle use. Currently no cattle in the pasture, which is good because this should be a fall/winter pasture. No evidence of fresh horse sign or use, there was a group of wild horses on this pasture but should of pick up in one of the recent horse gathers. Sign indicates use is from pronghorn, deer and rabbits.

**Bull Spring T2:** Some pronghorn nearby the transect, all recent use appears to still be from wildlife. Good seed head production on perennial grasses especially galleta grass. Had some recent rainstorms pass through this area. No recent horse or cattle sign.

**f. 2019 Utilization Winter Use**

TRANSECT NUMBER	PASTURE	KEY SPECIES UTILIZATION					
		Galleta Grass	Needle and Threadgrass	Sand Dropseed	Winterfat	Indian Ricegrass/Needle and Threadgrass	Indian Ricegrass
T#1	East Bench	----	----	----	----	35%	----
T#2	East Bench	41%	39%	47%	----	----	----

T#3	East Bench	55%	----	----	54%	----	----
T#4	Corral	8%	11%	----	----	----	----
T#5	Blue Mtn.		5%	----	----	----	4%

**Bull Spring T#1:** Cattle are currently using this pasture. Key species being utilized is dominantly Needle and Thread Grass with some Indian Ricegrass intermixed. Patches of Galleta Grass are present but not being targeted. Overall vigor of the Needle and Thread Grass is fair, very little recent sign from wild horse use along this transect.

**Bull Spring T2:** This is the most utilized area of the pasture due to water location. Good mixture of all key species listed in the table but become less prevalent east of the trough/pond. Overall grass vigor is fair.

**Bull Spring T3:** No wild horse sign along the transect. Most grass consists of Cheatgrass, which is limiting perennial grass recruitment. So desirable species are being targeted which is reflected by the use levels.

**Bull Spring T4:** No winter cattle use within this pasture, some old wild horse manure, nothing recent. Perennial grasses are extremely limited on the east side of the mountain range of pasture. Overall vigor of perennial grasses present is poor.

**Bull Spring T5:** No winter cattle use, with exception that a few head looked like came up from the East Pasture, but just trailed through. Water has to be hauled into pasture which the permittee did not do this year. Some old horse sign, but nothing recent. Perennial grass vigor is good.

**g. 2020/2021 Utilization Fall/Winter Use**

TRANSECT NUMBER	PASTURE	KEY SPECIES UTILIZATION					
		Galleta Grass	Intermediate Wheatgrass	Crested Wheatgrass	Russian Wildrye	Indian Ricegrass/Needle and Threadgrass	Purple Three- Awn
T#1	East Bench	----	----	----	----	35%	----
T#2	East Bench	23%	----	----	----	47%	----
T#3	East Bench	9%	----	----	----	27%	----
T#4	East Bench	----	----	----	----	4%	----
T#5	Blue Mtn.	----	----	----	----	29%	----
T#6	Blue Mtn.	16%	----	----	----	35%	----
T#7	Corral	23%	----	----	----	20%	32%
T#8	Corral	36%	----	----	----	not enough samples	----
T#9	Corral	----	34%	42%	not enough samples	45%	----
T#10	Corral	----	29%	48%	not enough samples	55%	----

**Bull Spring T#1:** Transect was completed east of the main road. Cheatgrass is starting to become invasive. Perennial grasses were short due to lack of winter and spring moisture last year.

**Bull Spring T2:** This transect was completed east of the water location near the power lines. Majority of livestock use this area. Perennial grass conditions were like the last transect. Little indication that wild horses have used this area recently.

**Bull Spring T3:** This transect was completed east of the northwest of the radio towers off the two-track road. The area gets light use from livestock due to distance from water and less prevalent perennial grass, however in the sagebrush invasive species are not very apparent on site.

**Bull Spring T4:** This transect is north of the last transect located off the same road. Very little livestock, wild horse and wildlife use along this transect.

**Bull Spring T5:** This transect is located probably only a ¼ mile from water is hauled at an old trough location that is no longer functioning. Perennial grasses are limited in the interspaces of the sagebrush. Invasive species are limited and have not impacted the site, mostly bare ground within interspaces.

**Bull Spring T6:** Like the last transect.

**Bull Spring T7:** Perennial grasses are limited. Sign indicates elk, wild horse and livestock use.

**Bull Spring T8:** Transect was completed northwest of last transect along the main Prout wash road.

**Bull Spring T9:** This transect was part of an older seeding on the west side of bull spring on the other side of the mountain. Sign indicates elk, wild horse, and livestock use. 7 head of wild horses present near the transect.

**Bull Spring T10:** Like the last transect.

#### **h. 2021/2022 Bull Spring Utilization**

TRANSECT NUMBER	PASTURE	KEY SPECIES UTILIZATION						
		Galleta Grass	Winterfat	Crested Wheatgrass	Sand Dropseed	Indian Ricegrass/Needle and Thread Grass	Purple Three-Awn	Russian Wildrye
T#1	East Bench	----	----	----	----	46%	----	----
T#2	East Bench	50%	43%	----	----	48%	----	----
T#3	East Bench	12%	----	----	----	36%	----	----
T#4	East Bench (Middle)	24%	----	----	28%	32%	----	----
T#5 (KA)	Blue Mtn.	16%	----	----	36%	39%	----	----
T#6	Blue Mtn.	----	----	----	Not Enough Samples	34%	----	----
T#7	Corral	2.5%	----	----	----	7%	6%	----
T#8	Corral	5%	----	----	Not Enough Samples	19%	----	----
T#9	Corral	----	----	50%	Not Enough Samples	46%	----	64%
T#10	Corral	----	----	48%	----	43%	----	Not Enough Samples

**Bull Spring T#1:** Very little growth on cool season perennial grasses from the last two dry winters and springs. Un-grazed key species 1-3”.

**Bull Spring T2:** Russian thistle showed up heavily in this pasture with the timing and amount of summer rains. Typically, only a few are present. Cool season grasses had little growth like the last transect. Winterfat showed 3-6" of new growth on most plants un-grazed. Older sign from wild horses but no recent tracks or manure along the transect. No wild horses were seen in the pasture this trip.

**Bull Spring T3:** This area gets less cattle use due to location from water. Health and vigor of warm season grasses is good. Health and vigor of cool season grasses is poor. Seed production on both is poor.

**Bull Spring T4:** Like the last transect as far as cool and warm season grass conditions. Except along this transect noticed a few bunch grasses have turned black and are most likely completely lost. It's from persistent drought condition not over utilization since in the past this area hardly got grazed. Black Sagebrush is dominant and showing fair health.

**Bull Spring T5:** This transect was located at a key area. Like the last two transect for condition of cool and warm season grasses. With the exception to Blue Grama which did well with summer rains and the majority produced seed head. Did not add as a key species did not observe any use on the species. Livestock, elk, and horse sign was all observed along the transect. We just flew this area to gather census data on wild horses and both elk and wild horses were counted in the pasture.

**Bull Spring T6:** Similar condition of warm and cool season grasses except cool season grasses are slightly more dominant. Recent elk and livestock sign was observed along the transect.

**Bull Spring T7:** The Fisher wash area received large amounts of concentrated rain fall in July/August. This has resulted in large amounts of Galleta Grass responding throughout areas, especially along the washes hillsides. As a result, warm season grasses show excellent health, vigor and the majority set seed. Very minimal sign of wildlife or wild horse use along the transect. No livestock use observed.

**Bull Spring T8:** Galleta Grass is also prevalent along this transect because of the summer rains. No sign of fall or winter livestock use. Some recent elk use as apparent by scat. Galleta Grass had excellent seed production.

**Bull Spring T9:** This transect is within a treatment area. The area is dominated by cool season grasses that have had minimal growth due to persistent drought conditions especially during critical growing times. Recent elk and wild horse sign, and 7 wild horses counted just east of the transect. Poor health and seed production on all grasses. The area has received some snow, most has melted but still patchy throughout the area which will help with spring soil moisture.

**Bull Spring T10:** Like the previous transect but less Russian Wildrye. Precipitation this spring will make all the difference in this pasture.

#### **D. Culver Spring Allotment**

The Culver Spring Allotment consists of the following acres:

ALLOTMENT	PUBLIC ACRES	STATE ACRES	PRIVATE ACRES
Culver Spring	439	639	40

The following table illustrates the grazing management system within the Culver Spring Allotment.

ALLOTMENT	NUMBER OF LIVESTOCK	KIND OF LIVESTOCK	SEASON OF USE	PERCENT PUBLIC LAND	AUMS
Culver Spring	40	Cattle	02/20-04/30	44	41

### Actual Use Data

YEAR/ALLOTMENT	CULVER SPRING
2021	Non-Use
2020	Non-Use
2019	Non-Use
2018	9
2017	15
2016	Non-Use
2015	90
2014	5
2013	Non-Use
2012	47
2011	21
2010	6
2009	17
<b>Average (Non-Use year not included)</b>	<b>26</b>

#### a. 2009 Utilization

Utilization data was collected within the Culver Spring Allotment on May 1, 2009 following the 2009 grazing year. The following table illustrates the livestock use that occurred in the 2009 grazing year.

KEY AREA/TRANSECT NUMBER	KEY SPECIES UTILIZATION
	Galletta Grass
06123-01-01	42%

**06123-01-01:** Perennial grasses including Galletta Grass, Indian Ricegrass, Needle-and-Thread and Bottlebrush Squirrealtail are present at the Key Management Area. Although cool season grasses are present, they were mostly caged in sagebrush and rabbitbrush.

#### b. 2011 Utilization

Utilization data was collected within the Culver Spring Allotment on June 17, 2011, following the 2011 grazing year. The following table illustrates the livestock use that occurred in the 2011 grazing year.

KEY AREA/TRANSECT NUMBER	KEY SPECIES UTILIZATION
	Galletta grass
06123-01-01	14%

**06123-01-01:** Perennial grasses including Galletta grass, Indian Ricegrass, Needle-and-Thread and Bottlebrush Squirreltail are present at the Key Management Area. Although cool season grasses are present, they were mostly caged in sagebrush and rabbitbrush. All perennial grasses were vigorous and seeded out.

### c. 2016 Utilization

TRANSECT # NUMBER	PASTURE	KEY SPECIES UTILIZATION	
		Galleta Grass	Squirrel tail grass
05123-01-01	Culver Spring	4%	11%

**Culver Spring (05123-01-01):** Some recent cattle sign present, Bottle Brush Squirreltail is the most prevalent perennial grass being utilized. Very few cattle utilize the area. The overall health and vigor of the perennial grasses is good. Had good winter and early spring moisture.

### E. Gold Spring Allotment

The Gold Spring Allotment consists of the following acreage by land ownership status:

Allotment	Public Acres	Private Acres	State Acres
Gold Spring	29,910	2,750	5,046

The following tables illustrate the livestock grazing management system that occurs within the Gold Spring Allotment.

ALLOTMENT	NUMBER LIVESTOCK	LIVESTOCK KIND	GRAZING BEGIN	GRAZING END	% PL	AUMS
Gold Spring	133	Cattle	04/01	10/15	67	582

A deferred grazing management system within Gold Spring Allotment as detailed below:

Season of Use					
	04/01 --5/31	06/01 – 06/30	07/01 – 09/30	10/01 – 10/15	10/01 – 10/15



Gold Spring	Year 1	Eight Mile Spring and Private (52 AUMs)	Rose Valley (28 AUMs)	Gold Spring Seeding (87 AUMs)	Rose Valley (14 AUMs)	Gold Springs Native (35 AUMs)
	Year 2	Mt. Elinor (93 AUMs)	Gold Spring Native (28 AUMs)	Gold Spring Seeding (87 AUMs)	Rose Valley (14 AUMs)	Gold Springs Native (35 AUMs)

### Actual Use Data

YEAR/ALLOTMENT	GOLD SPRING
2021	170
2020	197
2019	210
2018	97
2017	188
2016	261
2015	201
2014	161
2013	252
2012	194
2011	211
2010	211
2009	120
2008	168
<b>Average</b>	<b>188</b>

#### a. 2009 Utilization

Utilization data was collected within the Gold Spring Allotment on October 20, 2009 following the 2009 grazing year. The following table illustrates the livestock use that occurred in the 2009 grazing year.

Allotment	Pasture	Species	Utilization %
Gold Spring	Gold Spring Seeding	Intermediate wheatgrass	28
		Smooth brome	47.2
	Rose Valley	Indian Ricegrass	13.3

### Gold Spring Seeding

Most utilization can be attributed to wild horses and cattle. Most wild horse use occurred in the spring. Use by cattle occurred in the summer. There was some rabbit sign in the area. Animals preferring smooth brome. Grasses were robust, vigorous and reproducing. Last year the seeding received moderate to heavy use from wild horses; cattle did not use this pasture last year. Utilization goes from light to moderate the closer to Newell Spring.

### Rose Valley

Actual use report shows the permittee did not use this pasture and utilization and inspection confirm this. Utilization is slight and there was no sign of recent livestock use. Needle-and-thread and Bottlebrush Squirrealtail were also present in the pasture. Purple Three-Awn is abundant in the pasture. Utilization was uniform throughout the pasture.

#### b. 2011 Utilization

Utilization data was collected within the Gold Spring Allotment on November 29, 2011, following the 2011 grazing year. The following table illustrates the livestock use that occurred in the 2011 grazing year.

PASTURE	KEY SPECIES UTILIZATION				
	Indian Ricegrass	Intermediate wheatgrass	Galleta Grass	Bottlebrush squirrealtail	Smooth Bromegrass
Eight Mile	No Utilization Recorded – Non-Use				
Gold Spring Seeding	----	23%	----	----	41%
Mt Elinore	12%	----	----	----	----
Rose Valley	----	----	10%	----	----

**Eight Mile Pasture:** The site is dominated by Wyoming Big Sagebrush with galletta grass in the interspaces. Wild horse and cattle sign within the area were from the previous year. There was no difference between the inside of the utilization cage to the outside of the cage; therefore, utilization was not recorded. Soils are gravelly loam and there was no soil movement evident.

**Gold Springs Seeding Pasture:** Perennial grasses including smooth bromegrass, Intermediate wheatgrass were present. Shrubs including Wyoming Big Sagebrush, Black Sagebrush and Rubber Rabbitbrush were present. Grasses were vigorous and seed out. Animals appear to prefer smooth bromegrass. There was no visible soil erosion present. Livestock and wild horse sign were present within the area.

**Mt. Elinore Pasture:** Indian Ricegrass was the dominant perennial grass. Shrubs including Wyoming Big Sagebrush, Black Sagebrush and Rubber Rabbitbrush were present. All plants were vigorous, healthy and seeded out. No visible soil erosion present within the area. Livestock sign was present within the area.

**Rose Valley Pasture:** Galletta grass and three-awn were the dominant perennial grasses present. Bottlebrush squirrealtail was caged in shrubs. All perennial grasses were healthy. Wyoming Big Sagebrush was the dominant shrub present. There was no livestock sign present. There was no visible soil erosion within the area.

#### c. 2013 Utilization

Utilization data was collected within the Gold Spring Allotment on November 13, 2013 following the 2013 grazing year. The following table illustrates the livestock use that occurred in the 2013 grazing year.

TRANSECT NUMBER	KEY SPECIES UTILIZATION				
	Indian Ricegrass	Intermediate wheatgrass	Galleta Grass	Bottlebrush squirreldail	Smooth Bromegrass
01-02	39%	----	19%	----	----
01-01	----	----	22%	----	----
02-01	30%	----	----	----	----
02-02	46%	----	19%	----	----
05-06	----	11%	----	----	15%
03-05	53%	----	31%	36%	----

**Transect 01-02:** All use appears to be wild horses and deer, fresh wild horse track, antelope and deer and rabbit. Two old dead horse skeletons were in transect, no sign of livestock use. Species present: Bottlebrush Squirreldail, Indian Ricegrass, Galleta Grass, Wyoming Big Sagebrush, Juniper and Three Awn.

**Transect 01-01:** This transect is not far from 01-02, Species present is mainly Galleta Grass, Wyoming Big Sagebrush with some Indian Ricegrass, Purple Three-Awn, Blue Gramma, Bottlebrush Squirreldail and Utah Juniper. Wild Horse and deer sign present. No livestock sign.

**Transect 02-01:** Good Vigor on Indian Ricegrass. Most seed heads were gone. Wild horse sign and old livestock sign, no sign of soil erosion, small cobble. Some of the Achy plants are dying out. Fresh cattle sign in between transect and corral, but no fresh sign in the transect.

**Transect 02-02:** Mostly warm season plants with very little cool season plants. No sign soil movement, lots of small cobble rock. Some of the Indian Ricegrass plants dead. Species present: galleta grass, cheatgrass, Wyoming Big Sagebrush, Indian Ricegrass, Three Awn and Bottlebrush Squirreldail.

**Transect 05-06:** Took pictures on both sides of the road west side above trend post and to Northeast up on hill just off the fence. Forage conditions look good in Gold Spring Seeding, since this is fenced off. No wild horses can graze inside, has helped protect the seeding from overuse like in the past. Some of seed heads have fallen on Smooth Bromegrass. No sign soil movement. Old cow sign, nothing fresh, some old rabbit sign and one cow or bull elk track in mud. Fresh elk sign. Species present Intermediate wheatgrass, Smooth Brome Grass, Cheatgrass, Rubber Rabbitbrush, Pinyon Pine, Utah Juniper, Wyoming Big Sagebrush, Broom Snakeweed, Black Sagebrush, Globemallow, Prickly Pear Cactus and Lupine.

**Transect 03-05:** Wild horse and elk sign, tracks and dung present. Rabbit sign present, Coyote skat and fresh elk rubs. In every pace there were wild horse tracks present. Majority of use is wild horses. Species present: Blue Gramma, Galleta Grass, Four Wing, Wyoming Big Sagebrush, Utah Juniper, Broom Snakeweed, Globemallow, Sandberg Bluegrass, Prickly Pear and Cholla cactus.

**d. 2015 Utilization**

TRANSECT # NUMBER	PASTURE	KEY SPECIES UTILIZATION						
		Galleta Grass	Bottlebrush Squirreltail Grass	Intermediate Wheatgrass	Smooth Brome Grass	Indian Ricegrass	Needle and Threadgrass	Indian Ricegrass/ Needle and Threadgrass
05127-01-01	Eight Mile	3%	4%	----	----	----	----	----
05127-05-06	Gold Spring Seeding	----	----	11%	16%	----	----	----
05127-04-07	Gold Spring Native	----	6%	----	----	----	68%	----
05127-02-05	Mt. Elinor	----	----	----	----	17%	22%	----
05127-03-03	Rose Valley	16%	----	----	----	----	----	42%
Transect#1	Rose Valley	4%	----	----	----	----	----	46%

**Gold Spring (05127-01-01):** The key species in the area consist of galleta grass and bottlebrush squirrel tail. Health, vigor and seed production of these grasses is good. Most of the squirrel tail is caged, and noticeable conversion of cool to warm season grasses is affecting productivity of the site. Wild horse and small game sign were present on site to indicate species use.

**Gold Spring (05127-05-06):** This area is seeded with smooth brome and intermediate wheat grass being dominant. The un-grazed height of smooth brome was 9-14” and Intermediate Wheatgrass 8-10”. Health, vigor and seed production is excellent. Broom snakeweed and rabbitbrush was excessive within the site. Cattle sign was present indicating species use.

**Gold Spring (05127-04-07):** This site consisted of large interspaces between shrubs and grasses. Majority of the un-grazed grasses were caged within the Wyoming Big Sagebrush. Needle and thread grass was the key species being utilized; majority of use was from wild horses. Pinion-Juniper was also encroaching on the site.

**Gold Spring (05127-02-05):** Needle and thread and Indian Ricegrass was the dominant perennial grass present with galleta grass, bottlebrush squirrel tail and Sand Dropseed intermixed. The health, vigor and seed production of Indian Ricegrass and needle and thread grass were good. Some Indian Ricegrass bunches had decadent centers. Un-grazed height of needle and thread was 10-14” and Indian Ricegrass 6-8”. Both cattle and elk sign were present indicating species use.

**Gold Spring (05127-03-03):** Indian Ricegrass and needle and thread grass was scattered with large interspaces between bunches. Patches of Galleta Grass was found within the area and had been utilized. Blue grama, purple threeawn and bottlebrush squirrel tail was also being utilized which indicates lack of key species on site and a cool to warm season species conversion. Cattle sign was present indicating species use.

**Gold Spring (Transect #1):** Needle-and-Thread and Indian Ricegrass was the dominant perennial grasses present. The health, vigor and seed production was fair. The few un-grazed needle and thread and Indian Ricegrass were caged within the Wyoming Big Sagebrush. Un-grazed height of Indian Ricegrass was 6-8” and needle and thread 9-12”. Majority of use was from wild horse. Elk and deer sign was also present.

**e. 2017 Utilization**

TRANSECT # NUMBER	PASTURE	KEY SPECIES UTILIZATION						
		Galleta Grass	Bottlebrush Squirreltail Grass	Intermediate Wheatgrass	Smooth Brome Grass	Indian Ricegrass	Needle and Threadgrass	Indian Ricegrass/ Needle and Threadgrass
T1 (KA)	Mt. Elinore	6%	----	----	----	16%	15%	----
T2	Rose Valley	18%	----	----	----	37%	----	----
T3	Gold Spring Seeding	----	----	27%	36%	----	----	----
T4	Gold Spring Seeding	----	----	27%	24%	----	----	----
T5	Rose Valley	22%	----	----	----	30%	----	----

**Gold Spring (T1, KA):** Cattle sign present is minimal with no signs of wild horse use. Pinyon and Juniper encroachment is apparent on lower sagebrush ecological sites. Portions of this pasture has good perennial grass understory, while almost absent in other areas. This site would have a good response to treatment work in its current successional stage.

**Gold Spring (T2):** Minimal cattle sign. This area consists of an old stand of sagebrush with Indian Ricegrass sparsely scattered. Patches of galleta grass is the most prevalent and is the desired grass being utilized, Blue Grama is also prevalent but not the desired grass species being grazed at this site.

**Gold Spring (T3):** This pasture was part of a seeding and is by far the most productive pasture in the allotment. Intermediate Wheatgrass and Smooth Brome are the most prevalent grasses. There has been some recent mining exploration throughout this pasture that will need to be reclaimed on the operation is completed.

**Gold Spring (KA, T4):** This transect also is within the Gold Springs Seeding treatment. Lots of young Juniper and Pinyon trees are starting to make a presence back into the seeding. Would be a good project to maintain through chainsaw work.

**Gold Spring (T5):** Horse, elk and cattle sign are all present along this transect. Indian Ricegrass and Galleta are the most prevalent grasses, with large patches of Blue Grama not being utilized. Pinyon and juniper encroachment into the valley is noticeable.

**f. 2018 Utilization**

TRANSECT # NUMBER	PASTURE	KEY SPECIES UTILIZATION						
		Galleta Grass	Bottlebrush Squirreltail Grass	Intermediate Wheatgrass	Smooth Brome Grass	Indian Ricegrass	Needle and Threadgrass	Indian Ricegrass/ Needle and Threadgrass
T1	Rose Valley	17%	----	----	----	----	----	----
T2	Gold Spring Seeding	----	----	----	39%	----	----	----
T3	Gold Spring Seeding	----	----	12%	7%	----	----	----

**Gold Spring (T1):** The transect is located east of the main Gold Springs Road, you have to climb the hill to where it flattens out on top. No sign from cattle was present. Area looks to be extremely dry. Galleta Grass is the most abundant but shows fair health and vigor. Indian rice grass and Purple Three-Awn are in the area and show sign of decadence.

**Gold Spring (T2):** This transect falls in part of an old ESR treatment, majority of the perennial grass consists of smooth brome and Purple Three-Awn. Smooth brome is the preferred grass being grazed. Cattle sign is recent, most likely from spring use.

**Gold Spring (T3):** Very little sign of old or recent cattle sign along the transect, horse, rabbit and deer sign is present. This transect is located at the far North end of the ESR treatment. Vigor of grasses in this area are good with a lot more grasses producing seed heads compared to the last transect.

**g. 2019 Utilization**

TRANSECT # NUMBER	PASTURE	KEY SPECIES UTILIZATION						
		Galleta Grass	Bottlebrush Squirrealtail Grass	Intermediate Wheatgrass	Smooth Brome Grass	Indian Ricegrass	Needle and Threadgrass	Purple Three- Awn
T1	Mt. Elinor	----	----	----	----	----	No Use	----
T2	Mt. Elinor	----	----	----	----	Not Enough Samples	4%	----
T3	Rose Valley	28%	----	----	----	----	18%	----
T4	Rose Valley	----	27%	----	----	----	47%	----
T5	Gold Spring Seeding	----	----	22%	20%	16%	----	----
T6	Gold Spring Seeding	----	----	11%	17%	----	----	----
T7	Rose Valley	----	----	----	----	Not Enough Samples	----	24%

**Gold Spring (T1):** Needle and Thread Grass is the most prevalent perennial grass, with patches of Indian Ricegrass and galleta grass. The majority of needle and thread has produced seed heads and starting to drop seed. Some use on the ricegrass but too few to calculate utilization. All cattle manure was old, because it was grazed early spring/summer.

**Gold Spring (T2, KA):** All old cattle manure, no use since the growing season. Some wildlife use from rabbits, elk and deer is evident from scat. No horse manure along the transect. Trees at this site have started encroaching into the sagebrush flat and is starting to impact perennial understory.

**Gold Spring (T3):** This transect is located in a semi-open valley that runs north/south. Transect completed because this valley has more perennial grass production than the majority of areas within the pasture. Area is utilized by cattle, wild horses and elk. Manure and scat was old. Can see areas that have been heavily utilized in the past are dominated by broom snakeweed.

**Gold Spring (T4):** All cattle manure is old. However, old and recent horse manure was found along the transect. I have not seen any wild horses in pasture driving through. The transect is located in the valley bottom. Most perennial grasses not being used are in the canopy of shrubs and unavailable. Cheatgrass, mustards and Pepper Weed are starting to replace perennial grasses.

**Gold Spring (T5):** This transect is within part of the gold springs seeding. All cow manure is old, no sign of recent use. The majority of Smooth Brome Grass and Intermediate Wheatgrass has produced seed heads and will set seed this year. No wild horse manure or elk scat along the transect line.

**Gold Spring (T6):** This transect was like the last. A key area site is located about 200 yards from the main road to the north. Some more recent horse sign along the transect line.

**Gold Spring (T7):** This site is within a dense stand of Wyoming sagebrush; perennial grass is limited. Purple Three-awn is the most prevalent perennial grass. More recent cow and horse sign at the site.

#### **h. 2021 Utilization (Mid-Season)**

TRANSECT # NUMBER	PASTURE	KEY SPECIES UTILIZATION							
		Galleta Grass	Bottlebrush Squirreltail Grass	Intermediate Wheatgrass	Smooth Brome Grass	Indian Ricegrass	Indian Ricegrass/Needle and Threadgrass	Purple Three- Awn	Blue Gramma
T1	Gold Spring Seeding	----	----	2.5%	2.5%	----	----	----	----
T2	Gold Spring Seeding	----	----	2.5%	2.5%	----	----	----	----
T3	Gold Spring Native	----	----	----	----	----	----	----	----
T4	Gold Spring Native	----	----	----	----	----	----	----	----
T5	Rose Valley	2.5%	11%	----	----	----	----	12%	----
T6	Rose Valley	----	2.5%	----	----	----	2.5%	2.5%	2.5%
T7	Mt. Elinore	2.5%	----	----	----	17%	----	----	----

**Gold Spring (T1):** This transect is within part of an old seeding completed for emergency stabilization. Perennial grasses show good health and vigor with fair seed production. Most growth has occurred within the last few weeks with the monsoonal rain events in the area. No sign of summer cattle grazing. Some horse and elk sign but none that is from recent use. Smooth Brome (Smooth Brome Grass) un-grazed 4-6” without seed stock and Intermediate Wheatgrass (Intermediate Wheatgrass) 18-21” un-grazed.

**Gold Spring (T2):** Intermediate Wheatgrass and Smooth Brome Grass are prevalent and similar in health and vigor the previous transect. This site does have some invasive species, Cheatgrass



and Rubber Rabbitbrush. But they are being kept in check by perennial grasses and sagebrush. This pasture has had no summer cattle use or recent sign of use from wild horses or elk.

**Gold Spring (T3):** No use. Perennial grasses are absent. The site consists of an old sagebrush stand in the flat, the brush is starting to die off and the ground is covered with an invasive weed. I took photos to identify. This site is typical of all other similar flats off the roads in the pasture.

**Gold Spring (T4):** This stop was at Trough spring. No cattle use at the spring or surrounding area. Riparian vegetation is green and has had some minimal horse use indicated by tracks. The surrounding area lacks perennial grasses and consists of a thick stand of pinyon and juniper.

**Gold Spring (T5):** Minimal livestock use. Perennial grasses are sparse but has had some green up from recent monsoonal storms. Overall grasses still show poor health, vigor and seed production.

**Gold Spring (T6):** Minimal cattle use. There could have been some slight use before recent storms. Post storms the key species have greened up with most showing 3-5" of new growth making it hard to distinguish. Cattle, horse and elk use is minimal with no recent sign.

**Gold Spring (T7):** Cattle use recorded may have been from last winter use. No summer cattle use. Some Indian Ricegrass (Indian Ricegrass) has greened up 3-5" while other bunches show no new growth. Galleta Grass has 3-5" on new growth with the majority producing seed heads.

## F. Jackson Wash Allotment

The Jackson Wash Allotment consist of the following acres:

ALLOTMENT	PUBLIC ACRES	STATE ACRES	PRIVATE ACRES
Jackson Wash	19,436	1,831	1,757

The following table details the number and kind of livestock, season of use, percent public land, and AUMs which will be permitted:

ALLOTMENT	NUMBER LIVESTOCK	LIVESTOCK KIND	GRAZING BEGIN	GRAZING END	% PL	AUMS
Jackson Wash	300	Cattle	03/01	02/28	65	2340

The following table illustrates the grazing management system within the Jackson Wash Allotment.

Jackson Wash		Dates of Use															
		10/1 - 5/31								4/1 - 11/30							
	Year 1	9	8	Out	11	12	10	7	5	4a/4b	2	1	3	6	7	12	Out
	Year 2	12	10	11	8	9	Out	4b/4a	2	3	1	5	6	7	8	10	Out
	Year 3	11	10	12	9	8	7	Out	6	1	3	2	4a/4b	5	7	11	Out

## Actual Use Data

YEAR/ALLOTMENT	JACKSON WASH
2021	899
2020	1138
2019	996
2018	791
2017	1528
2016	779
2015	1080
2014	1018
2013	1018
2012	1768
2011	1390
2010	1221
2009	1316
<b>Average</b>	<b>1,149</b>

### a. 2011 Utilization

Utilization data was collected within the Jackson Wash Allotment September 15, 2011, following the 2011 grazing year. The following table illustrates the livestock use that occurred in the 2011 grazing year.

TRANSECT NUMBER	KEY SPECIES UTILIZATION					
	Indian Ricegrass	Needle-and-Thread	Bottlebrush squirreltail	Smooth bromegrass	Intermediate wheatgrass	Crested wheatgrass
# 1 Pasture 2	--	--	--	--	21%	--
# 2 Pasture 3	--	--	--	30%	43%	--
# 3 Pasture 4a-16	--	---	--	--	--	6%
Pasture 4a-01	--	--	--	--	--	5%
Pasture 5	--	--	--	--	--	12%
Pasture 6	5%	3.8%	3%	--	2.5%	--

**Pasture 2:** Had more use in bottoms, but not as significant of use along the rolling benches, heavier use closer to water source. Species list: Lupine, cheatgrass, Wyoming Big Sagebrush, rabbitbrush, Juniper. Elk droppings, cow tracks and droppings were present.

**Pasture 3:** Utilization was conducted 0.4 miles from the trough running east. Presence of cattle and horse sign present. Species list: bitterbrush, squirreltail, Juniper, Wyoming Big Sagebrush, PIED2, rabbitbrush, phlox, Lupine and Indian Ricegrass.

**Pasture 4a-16:** Fresh Cattle and elk tracks and droppings present, as well as old horse droppings. Species list: Black Sagebrush, Juniper prickly pear, PIED2, rabbitbrush, Wyoming Big Sagebrush. Significant juniper encroachment also noted.

**Pasture 4a-01:** Use only in areas by water source, plants still had good seed heads and good growth. Fresh elk tracks and dung apparent, as well as old cattle and horse tracks. Species list: Black Sagebrush, Juniper, ERNA10, Indian Ricegrass and rabbitbrush.

**Pasture 5:** Little sign of fresh cattle tracks except around water source. 2 pair of cattle spotted. Crested wheatgrass is restricted in the canopy of Black Sagebrush, except for few large openings. Species List: Indian Ricegrass, Juniper, phlox, PIED2. Juniper Encroachment is noted.

**Pasture 6:** Grasses and sagebrush showed high vigor, with little use. Horse and elk sign was present both fresh and old. No fresh sign around water. 4 wild horses were spotted: 2 black, one sorrel, and one black foal. Species list: Wyoming Big Sagebrush, Rabbitbrush, Broom Snakeweed, Globemallow, Bottlebrush Squirrealtail and Crested Wheatgrass.

#### **b. 2012 Utilization**

Utilization data was collected within the Jackson Wash Allotment on August 20, 2010, following the 2010 grazing year. The following table illustrates the livestock use that occurred in the 2010 grazing year.

Transect Number	Pasture	KEY SPECIES UTILIZATION				
		Indian Ricegrass	Needle-and-thread	Crested Wheatgrass	Smooth Brome	Bluebunch Wheatgrass
05133-02-02	2	----	----	----	----	47%
05133-04-16	4a	----	----	56%	----	----
05133-04-01	4a	----	----	45%	----	----
05133-05-02	5	----	----	40%	----	----
05133-06-03	6	29%	29%	----	----	----
Transect #1	3	----		----	28%	31%

**05133-02-02:** Blue bunch wheatgrass comprises the Key Species at this site. Other species present include: Wyoming Big Sagebrush, and Green Rabbitbrush. Perennial grasses show good vigor on the site. This site has received moderate grazing pressure. Cattle were present near the site within pasture 2.

**05133-04-16:** Crested wheatgrass comprises the Key Species at this site. Other species present include: Wyoming Big Sagebrush, Blue grama, Green Rabbitbrush, Utah Juniper, galleta, and Sand Dropseed. Perennial grasses show good vigor on the site. This site has received moderate grazing pressure. Fresh cattle sign was abundant on the site with a few cows present.

**05133-04-01:** Crested wheatgrass comprises the Key Species at this site. Other species present include: Wyoming Big Sagebrush, Green Rabbitbrush, Utah Juniper, and pinion pine. Perennial grasses show good vigor on the site. This site has received moderate grazing pressure. Fresh cattle sign was present on the site.

**05133-05-02:** Crested wheatgrass comprises the Key Species at this site. Other species present include: Black Sagebrush, Indian Ricegrass, Purple Three-Awn, Utah Juniper, and pinion pine. Perennial grasses show good vigor on the site. This site has received moderate grazing pressure. Fresh cattle sign was abundant on the site with cattle present.

**05133-06-03:** Indian Ricegrass and Needle-and-thread comprise the Key Species at this site. Other species present include: Wyoming Big Sagebrush, Bottlebrush Squirreltail, Black Sagebrush, and Blue Grama. Perennial grasses show high vigor and are abundant on the site. This site has received light grazing use. Cattle and wild horses were present on the site.

**Transect #1:** Blue bunch wheatgrass and smooth brome comprise the Key Species at this site. Other species present include: Wyoming Big Sagebrush, Utah juniper, pinion pine, and Rubber Rabbitbrush. Recruitment of Wyoming Big Sagebrush was abundant on the site. Perennial grasses show good vigor on the site. This site has received light grazing pressure. Cattle and wild horses were present near the site.

### c. 2013 Utilization

Utilization data was collected within the Jackson Wash Allotment on November 16, 2013, following the 2013 grazing year. The following table illustrates the livestock use that occurred in the 2013 grazing year.

Transect Number	Pasture	KEY SPECIES UTILIZATION		
		Smooth Brome	Crested Wheatgrass	Intermediate Wheatgrass
Transect 1	2	41%	-----	50%
Transect 2	2	32%	24%	-----
05133-02-02	2	-----	-----	31%
Transect 3	3	65%	-----	-----
Transect 4	3	48%	-----	26%
Transect 5	3	49%	-----	38%
05133-04-01	4	-----	48%	-----

**Transect 1(Pasture 2):** The site looked good. There were good stands of Wyoming Big Sagebrush with and adequate amount of understory of grasses. Smooth Brome was the dominate grass. There were 6 head of wild horses and 4 pair of cattle within the pasture.

**Transect 2 (Pasture 2):** Intermediate Wheatgrass was the dominate perennial grass. Use appears to be by both wild horses and cattle. Plant health and vigor were fair with limit seed set.

**05133-02-02 (Pasture 2):** Intermediate wheatgrass is the dominate grass. Plant Health and Vigor was fair. Seed production was limited. Utah Juniper is encroaching into the site.

**Transect 3 (Pasture 3):** The overall utilization appears to be heavy. Stubble height of grazed grasses averages ½ - 2” inches tall. The utilization appears to be mostly by wild horses due to the abundance of horse tracts and feces and scarce sign of cattle use. There is an abundant amount of

recruitment within the Wyoming Big Sagebrush. This transect was within an old seeding. Seed production was very limited.

**Transect 4 (Pasture 3):** Perennial grasses had limited health, vigor, and seed production. Horse use was very apparent with fresh tracks and feces.

**Transect 5 (Pasture 3):** Plant health and vigor for the site was good. Smooth Brome was the dominate grass. Seed set was limited. Utilization appears to be by cattle and wild horses. Utah Juniper in encroaching the seeding and there is an abundant amount of sagebrush recruitment.

**05133-04-01 (Pasture 4):** The seed set of perennial grasses was limited. The site was primarily comprised of crested wheatgrass. Pinyon and Juniper and encroaching into the site. The site shows sign of utilization by cattle, wild horses, and elk.

#### d. 2015 Utilization

TRANSECT # NUMBER	PASTURE	KEY SPECIES UTILIZATION			
		Smooth Brome Grass	Western Wheatgrass	Crested Wheatgrass	Needle and Threadgrass/Indian Ricegrass
Transect #3	#3	53%	35%	----	----
Transect #2	#2	31%	37%	----	----
05133-02-02	#2	----	47%	----	----
05133-04-01	#4a	----	----	27%	----
05133-04-16	#4a	----	----	29%	----
05133-05-02	#5	----	----	31%	----
05133-06-03	#6	----	----	----	50%
Transect #1	#6	----	----	----	45%

**Jackson Wash (Transect #3):** This site is within an old seeding. The dominant perennial grasses in the area are smooth brome and Western Wheatgrass. The majority of Western Wheatgrass is caged within Wyoming Big Sagebrush. Un-grazed height of the key species grasses include: Western Wheatgrass 14-16” and Smooth Brome Grass 20-24”. A type of sedge is abundant between the interspaces. Also, lots of recruitment of Wyoming Big Sagebrush that carpet some areas. Rabbit brush and young juniper trees are excessive and starting to affect productivity of the site. Health, vigor, and seed production of the key species is poor. Both cattle and wild horse have been utilizing the area.

**Jackson Wash (Transect #2):** This site is part of an old seeding. Smooth brome and Western Wheatgrass are the dominant grasses on the site. The seed set on smooth brome is good, but

Western Wheatgrass seed set is lacking, overall health and vigor is good. Cattle, elk and deer sign are all present on the site. Young Juniper are scattered and starting to encroach within the area.

**Jackson Wash (05133-02-02):** Western wheatgrass is the only key species present and dominant grass on site. The area is within an old seeding with young juniper beginning to encroach on site. The health, vigor and seed set are fair. Un-grazed Western Wheatgrass height is 16-18". Cattle and horse sign was present. Site has poor plant diversity.

**Jackson Wash (05133-04-01):** Crested wheatgrass is the dominant grass and only key species grass within the area. The majority is caged within the Wyoming Big Sagebrush and unavailable for use. Most of the caged crested has seed heads but, overall health and vigor is poor. Site is within an old seeding where pinion and juniper is starting to encroach back on site. Both wild horse and cattle sign was present. This transect is .6 miles from key area trend.

**Jackson Wash (05133-04-16):** Crested wheatgrass is the dominant perennial grass within the area and the majority is caged within Wyoming Big Sagebrush and Black Sagebrush. The overall health, vigor and seed production of crested wheatgrass is poor. With an un-grazed height of 4-6", juniper is encroaching on site. Cattle and wild horse sign is present but majority of use is from wild horses.

**Jackson Wash (05133-05-02):** This site is an old treatment where crested wheatgrass is the dominant perennial grass and only key species. The majority of Crested Wheatgrass is caged within the canopy of shrubs and has an un-grazed height of 6-8". The health, vigor and seed production of crested is fair. Juniper is encroaching back onto site and broom snakeweed and rubber rabbit brush are present in excessive amounts. Both wild horse and cattle sign was present.

**Jackson Wash (05133-06-03):** Needle and thread is the dominant perennial grass in the area with scattered bunches of Indian Ricegrass. Un-grazed height of needle and thread inside the utilization cage was 8-10", health, vigor and seed production are poor. Broom snakeweed was excessive in the area and scattered juniper trees are present. Three wild horses were present at key area, both cattle and horse sign.

**Jackson Wash (Transect#1):** Needle-and-Thread is the dominant perennial grass with scattered bunches of Indian Ricegrass. The un-grazed height of needle and thread is 16-18", health, vigor and seed production of the perennial grasses is fair. Broom Snakeweed and Rubber Rabbitbrush are excessive, and junipers were encroaching starting to affect the productivity of the site. Both cattle and wild horse sign are evident.

**e. 2016/2017 Utilization (North Pastures)**

TRANSECT # NUMBER	PASTURE	KEY SPECIES UTILIZATION	
		Western Wheatgrass	Crested Wheatgrass
Transect #1	2	30.6%	----
Transect#2	4a	----	28%

**Jackson Wash (Transect #1):** Majority of use is from elk and wild horses. Western Wheatgrass is the dominant grass in the pasture. Lots of young PJ are encroaching back into the pasture.

**Jackson Wash (Transect #2):** Majority of use is from wild horses. This was part of an old, crested wheat seeding. Black Sagebrush has good diversity and health. Crested wheatgrass is limited within interspaces of brush, with the majority of crested producing seed heads is found within the canopy of brush. Pinyon and Juniper is heavily encroaching back onto the site.

**2016/2017 (South Pastures)**

TRANSECT # NUMBER	PASTURE	KEY SPECIES UTILIZATION			
		Bottlebrush Squirreltail Grass	Indian Ricegrass	Indian Ricegrass/Needle and Threadgrass	Galleta Grass
05113-08-05	#8	7%	27%	----	----
Transect #1	#9	----	----	3%	----
Transect#2	#7	----	----	Not Enough Samples	62%

**Jackson Wash (05113-08-05):** No recent cattle sign. Some old cattle sign. Deer tracks and sign are present. Indian Ricegrass and Bottlebrush Squirreltail Grass are the most prevalent perennial grasses. Bottlebrush Squirreltail Grass is mostly found under the canopy of Wyoming Big Sagebrush, with Indian Ricegrass in interspaces. Overall health and vigor is fair. GUSA2 is prevalent on site.

**Jackson Wash (Transect #1):** Cattle didn't utilize the BLM portion of this pasture. Good diversity of perennial grasses with excellent health and vigor. Pasture is split by one section of BLM and one section private.

**Jackson Wash (Transect #2):** Only horse sign evident along the transect and spotted 6 wild horses. Perennial grasses are limited to Galleta Grass with some scattered Indian Ricegrass and Bottlebrush Squirreltail that is being over utilized by wild horses. Purple Three-Awn is also being grazed heavily. The overall pasture is in similar to worst condition.

**f. 2017 Utilization**

TRANSECT # NUMBER	PASTURE	KEY SPECIES UTILIZATION						
		Galleta Grass	Needle and Threadgrass	Crested Wheatgrass	Western Wheatgrass	Smooth Brome Grass	Indian Ricegrass	Sand Dropseed
Transect #1	3	----	----	22%	----	----	----	---
Transect#2	3	----	----	10%	----	18%	----	----
Transect #3	3	----	----	----	----	29.4%	----	----
Transect #4	2	----	----	----	31%	----	----	----
Transect #5	5	----	----	30%	----	----	----	----
Transect #6	6	----	38.5%	----	----	----	----	----
Transect #7	7	28%	----	----	----	----	----	----
Transect #8	7	33%	----	----	----	----	----	----
Transect #9	8	4%	----	----	----	----	10%	----
Transect #10	9	3%	----	----	----	----	----	3%

**Jackson Wash (Transect #1):** Both old and recent wild horse sign, cattle sign is minimal and looks old. This was part of an old, crested wheatgrass seeding. Pinyon and Juniper have started to encroach back into the treatment. Most of the key species has produced seed heads.

**Jackson Wash (Transect #2):** The most abundant grass in the area is smooth brome. All cattle sign appears to be old, some fresh wild horse sign. This area was part of a past treatment. The sagebrush shows a lot of good recruitment and almost mats the entire ground in some areas. Other areas in part of the burn have a lot of rabbit brush coming in.

**Jackson Wash (Transect #3):** The most prevalent and desired grass being utilized in the area is smooth brome, Western Wheatgrass is scattered, and the majority is caged within the brush canopy. The area also has large patches of a type of low growing sedge that covers the ground. Smooth brome also is extremely short most likely from repeated use. Overall, the area lacks in seed production.

**Jackson Wash (Transect #4):** Wild horse sign and cattle sign was present. The dominant grass in this area is Western Wheatgrass mixed with a diverse age class of sagebrush. The majority of Western Wheatgrass has not produced seed heads.

**Jackson Wash (Transect #5):** Majority of the grass is crested wheatgrass mixed with Purple Three-Awn. The dominant shrub in the area is Black Sagebrush. This is part of an old, Crested Wheatgrass seeding. Elk, wild horse and old cattle sign is evident. Crested wheatgrass has good seed production. This would be a good area for future treatment work.



**Jackson Wash (Transect #6):** Recent cattle sign is evident. Need to make sure this pasture is rested for the spring growing season. Needle and thread grass is the dominant key species, overall, the key species has poor seed production.

**Jackson Wash (Transect #7):** Only visible sign in old horse scat. Galleta Grass is the most prevalent grass and desirable grass in the area. Overall health and vigor is fair, visually estimated that 40% is producing seed.

**Jackson Wash (Transect #8):** Mostly old and recent horse sign, saw a single antelope near transect, west of the trough. Galleta Grass is the most prevalent key species in the area. Overall health, vigor and seed production is poor.

**Jackson Wash (Transect #9):** Minimal old horse and cattle sign. Good diversity of grass species and large patches of galleta are scattered throughout the site. Majority of use appears to be from wildlife. Winterfat is present but scattered and broom snakeweed has become invasive in some areas and is starting to choke out some of the Winterfat.

**Jackson Wash (Transect #9):** Minimal old horse and cattle sign. Good diversity of grass species and large patches of galleta are scattered throughout the site. Majority of use appears to be from wildlife. Winterfat is present but scattered and broom snakeweed has become invasive in some areas and is starting to choke out some of the Winterfat.

**Jackson Wash (Transect #10):** Cattle sign is old and minimal. Sand dropseed and galleta grass are the most prevalent grasses. Both show excellent health and vigor with good seed production. Bunch grasses have build-up of old growth from lack of use.

#### g. 2018 Utilization

TRANSECT # NUMBER	PASTURE	KEY SPECIES UTILIZATION				
		Bottlebrush Squirreltail Grass	Needle and Threadgrass	Crested Wheatgrass	Western Wheatgrass	Smooth Brome Grass
Transect #1	6	3%	4%	----	----	----
Transect#2	6	3%	6%	----	----	----
Transect #3	5	----	----	5%	----	----
Transect #4	4a	----	----	8%	----	----
Transect #5	4a	----	----	8%	----	----
Transect #6	2	----	----	----	23%	----
Transect #7	3	----	----	----	----	38%
Transect #8	3	----	----	----	----	23%

**Jackson Wash (Transect #1):** Does not appear to have any spring or summer use from cattle. 30-40% of perennial grasses are producing seed heads. We are coming out of a very little snowpack for the winter and have received almost nothing for spring and summer rains.

**Jackson Wash (Transect #2):** Old cattle and horse sign present. Very little spring and summer grazing, Majority of forage appears to have been utilized by elk passing through the area. With extreme drought conditions this year plants are showing poor vigor in this area. Estimated that only 10-15 percent of grasses are producing seed heads.

**Jackson Wash (Transect #3):** This site is associated with a key area. This area is part of an old Crested Wheatgrass treatment. Majority of grasses are found within the canopy of the sagebrush, seed heads are only being produced on caged grasses, some old cattle sign but majority of sign is from wild horses and rabbits. Visually estimated to have 40-50% of grasses producing seed heads.

**Jackson Wash (Transect #4):** This site is still part of an old Crested Wheatgrass treatment/seeding. Only seed heads being produced are from Crested Wheatgrass grasses being protected in canopies of the sagebrush. Grasses in interspaces are short. Cattle sign is old not from this spring or summer, fresh elk and horse sign is present. Spotted on horse on fence line near transect.

**Jackson Wash (Transect #5):** Wild horse and Elk sign. No cattle sign from spring or summer use. Still with part of an old treatment. Grass shows poor vigor visually estimated that 15-20% are producing seed heads. Spotted 3 wild horses by the trough near the transect.

**Jackson Wash (Transect #6):** Moderate amount of wild horse sign in this pasture and along the transect. This area was also part of an old vegetation treatment. The dominant and only grass observed is Western Wheatgrass mixed with sagebrush. A few springs are located along the range just a few miles to the west. No cattle sign observed while walking the transect but a few cattle are starting to come over from pasture 3 to the southeast.

**Jackson Wash (Transect #7):** Cows are currently using this pasture, 7 head of wild horses on water trough located on the hill of the main road. This pasture has had portions that have been burnt and treated years ago. The majority of grass left in area that I ran transect was Smooth Brome Grass. This pasture is known to have a high number of wild horses with Lone Pine Spring and Butcher Spring along with available livestock water to support wild horses on extremely dry years such as this. Cattle are going to be rotating to other pastures on the other side of the Jackson Wash Road.

**Jackson Wash (Transect #8):** Elk, wild horse, and cattle sign, not as heavily used as you get further away from the trough located on the west side of the pasture. Smooth Brome Grass is short and shows poor vigor. Very minimal seed head production.

## 2018 South Pastures

TRANSECT NUMBER	PASTURE	KEY SPECIES UTILIZATION		
		Galleta Grass	Indian Ricegrass/Needle and Threadgrass	Sand Dropseed
Transect 1	7	35%	----	----
Transect 2	7	34%	----	----
Transect 3	7	22%	----	----
Transect 4	8	----	38%	----
Transect 5	8	3%	----	----
Transect 6	10	17%	----	18%

**Jackson Wash (Transect 1):** Galleta Grass is the dominant perennial grass with scattered bunches of Purple Three-Awn. Many young trees encroaching into the brush. No cattle sign, but old and recent wild horse sign. Overall, the health and vigor of galleta is fair.

**Jackson Wash (Transect 2):** Counted three wild horses at the transect, good patch of galleta grass in the wash and surrounding sagebrush site. No sign of cattle use, just horse. Overall, the health and vigor of perennials is poor.

**Jackson Wash (Transect 3):** The water for this pasture is located to the north in the middle of the flat. The transect is in and out of the wash where the galleta grass is the most prevalent. Only use appears to be from wild horses and pronghorn indicated by tracks and scat, very little old cattle sign in the area. As you get into the older brush stands, galleta grass is less prevalent. Overall grass shows poor health and vigor.

**Jackson Wash (Transect 4):** This area has scattered bunches of Indian Ricegrass and needle, thread grass that are more desirable, and being utilized over the large patches of Galleta Grass. Some old cattle sign but recent use is from pronghorn and rabbits. The majority of Galleta Grass produced seed this summer while there is little to no seed production in the other perennial grasses.

**Jackson Wash (Transect 5):** Galleta Grass is prevalent, and the majority have produced seed heads. Some old cattle sign, no sign of any recent use along the transect, Sand Dropseed and Purple Three-Awn are mixed in with galleta patches.

**Jackson Wash (Transect 6):** This pasture only contains a small portion of BLM. All cattle sign is old, recent use is from pronghorn, wild horses haven't made it this low in the valley. Overall, the health and vigor of perennial grass is fair.

## h. 2019 Utilization

TRANSECT # NUMBER	PASTURE	KEY SPECIES UTILIZATION				
		Western Wheatgrass	Needle and Threadgrass	Crested Wheatgrass	Indian Ricegrass	Smooth Brome Grass
Transect #1	6	8%	10%	----	23%	----
Transect#2	6	----	21%	----	----	----
Transect #3	6	----	22%	----	----	----
Transect #4	5	----	7%	9%	----	----
Transect #5	4a	----	----	2%	----	----
Transect #6	4a	----	----	17%	----	----
Transect #7	2	21%	----	----	----	----
Transect #8	2	32%	----	----	----	----
Transect #9	3	25%	----	----	----	27%
Transect #10	3	26%	----	----	----	31%

**Jackson Wash (Transect #1):** No fresh cow manure along the transect or any sign that indicates fall cattle use. Some old horse manure and elk scat. The most prevalent desirable grass is Needle-and-threadgrass, all other grasses are scattered and patchy.

**Jackson Wash (Transect #2):** No recent cattle manure. Old wild horse manure and elk scat. Lots of young PJ trees encroaching into the flat, also more rabbitbrush than at previous transect. Needle and Thread Grass is still the most prevalent perennial grass.

**Jackson Wash (Transect #3):** Similar to the last transect but with more Pinyon and Juniper trees. Some recent horse manure along the transect.

**Jackson Wash (Transect #4):** No cow manure along the transect, but old and recent wild horse manure and a lot of rabbit scat. This area is part of an old chaining and grass mostly consists of Crested Wheatgrass with patches of other perennial grasses. Juniper is encroaching back into the treated site.

**Jackson Wash (Transect #5):** Mostly old and recent wild horse manure along the transect line. Similar to the last transect consisting of a monoculture of Crested Wheatgrass.

**Jackson Wash (Transect #6):** Similar to the last transect but Crested Wheatgrass is less prevalent with more old elk scat and horse manure along the transect is part of an old ES&R treatment indicated by old burnt stumps.

**Jackson Wash (Transect #7):** Cows currently in the pasture. The majority of the perennial grass present in this pasture is Western Wheatgrass. Thin to dense patches vary throughout the pasture. The spring that runs through the pasture is still running water.

**Jackson Wash (Transect #8):** cattle currently using this portion of pasture near the trough on the south end. Use would be expected to increase since close to water source.

**Jackson Wash (Transect #9):** Part of an old ES&R treatment. Old and recent horse manure and old cow manure along the transect. Smooth Brome Grass and Western Wheatgrass are the most common perennial grasses. Cheatgrass and ERNA10 are invasive at this site and majority of this pasture.

**Jackson Wash (Transect #10):** Similar to the last transect except perennial grasses are more abundant, also some areas are matted down with a type of sedge, really short and not being grazed. Old and recent horse manure, also more recent cattle manure. Currently no cow in pasture.

## 2019 South Pastures

TRANSECT # NUMBER	PASTURE	KEY SPECIES UTILIZATION				
		Galleta Grass	Needle and Threadgrass	Crested Wheatgrass	Indian Ricegrass	Smooth Brome Grass
Transect #1	8	2.5%	4%	----	3%	----
Transect #2	7	13%	----	----	----	----
Transect #3	7	10%	----	----	----	----
Transect #4	7	7%	----	----	32.5%	----
Transect #5	7	10%	----	----	----	----
Transect #6	8	----	2.5%	----	2.5%	----
Transect #7	8	----	4%	----	3%	----

**Jackson Wash (Transect #1):** No Notes

**Jackson Wash (Transect #2):** Minimal winter cattle use. Some recent and old horse manure. Galleta Grass is the dominant perennial grass with overall fair vigor. This is within an old stand of Wyoming Big Sagebrush.

**Jackson Wash (Transect #3):** No winter cattle use. Some old horse manure and pronghorn scat. Galleta Grass is still the dominant perennial grass, other grasses are extremely limited. Health and vigor of perennial grasses is fair.

**Jackson Wash (Transect #4):** No cattle use. herd of pronghorn ran off near the transect and appears they utilize this part of the pasture. Old and recent horse manure. Galleta Grass is patchy and other perennial grasses are limited. Overall, health and vigor is fair.

**Jackson Wash (Transect #5):** No cattle use. Some old horse manure and elk tracks. Overall, health and vigor of key species is fair.

**Jackson Wash (Transect #6):** No cattle, horse, or elk use. Grass is tall and full of old growth.

**Jackson Wash (Transect #7):** Pasture not utilized this winter. Permittee was able to keep livestock on private land throughout the winter. The key species are prevalent and show excellent health and vigor. No horse or wildlife sign along the transect.

#### i. 2020 Utilization

TRANSECT # NUMBER	PASTURE	KEY SPECIES UTILIZATION					
		Intermediate Wheatgrass	Indian Ricegrass/Needle and Threadgrass	Galleta Grass	Indian Ricegrass	Smooth Brome Grass	Crested Wheatgrass
Transect #1	3	----	----	----	----	50%	----
Transect#2	3	----	----	----	----	43%	----
Transect #3	2	48%	----	----	----	----	----
Transect #4	2	47%	----	----	----	----	----
Transect #5	2	43%	----	----	----	----	----
Transect #6	6	----	49%	----	----	----	----
Transect #7	6	----	43%	35%	----	----	----
Transect #8	5	----	----	----	25%	----	5%
Transect #9	4a	----	----	----	----	----	25%
Transect #10	4a	----	----	----	----	----	41%

**Jackson Wash (Transect #1):** This area has received little to no moisture since the spring, which has resulted in little growth on perennial species. The site consists of a stand of dense Wyoming Big Sagebrush with scattered perennial grasses. Elk tracks and scat and cattle and horse manure indicate species use. Overall, the key species show poor vigor and seed production.

**Jackson Wash (Transect #2):** No sign of recent cattle use, but old and recent horse tracks and manure. The ground is also littered with rabbit scat. Smooth Brome Grass shows poor vigor with little growth this year.

**Jackson Wash (Transect #3):** Wyoming Big Sagebrush is also dense in this pasture. Intermediate Wheatgrass shows poor vigor and seed production from drought conditions. Sign indicates cattle did use this pasture this summer. Some recent and old horse manure and tracks.

**Jackson Wash (Transect #4):** Most use is from cattle, some horse and elk use. Key species conditions and vegetation are like the last transect.

**Jackson Wash (Transect #5):** Majority is cattle use. Like the previous transect.

**Jackson Wash (Transect #6):** Indian Ricegrass and Needle and Thread Grass are the most prevalent perennial grasses. Though they are scattered and becoming restricted to the canopy of the Wyoming Big Sagebrush. Key species had little growth due to drought conditions which has resulted in poor vigor and seed production.

**Jackson Wash (Transect #7):** Galleta Grass and Blue Gramma are patchy throughout this area with scattered bunches of Indian Ricegrass and Needle and Threadgrass. Both cattle and horse tracks and manure. Key species growth was minimal and shows poor health seed production.

**Jackson Wash (Transect #8):** No sign of summer or fall use from cattle. Some recent and old horse and elk sign. The majority of Crested Wheatgrass has seed heads, this pasture also has minimal use last year, which has resulted in Crested Wheatgrass still showing good health and seed production even with drought conditions. Indian Ricegrass is limited and is being picked out, overall Indian Ricegrass shows poor health and seed production.

**Jackson Wash (Transect #9):** Sign from both livestock and horse show summer and fall use. This is part of an old Crested Wheatgrass seeding. Perennial grass shows good health and seed production, similar to the last transect.

**Jackson Wash (Transect #10):** Horse and livestock use is apparent. Still with the Crested Wheatgrass seeding. This transect was done closer to a watering location which will be reflected by higher utilization.

j. 2021 Summer Use

TRANSEC T # NUMBER	PASTURE	KEY SPECIES UTILIZATION					
		Western Wheatgras s	Indian Ricegrass/ Needle and Threadgra ss	Galleta Grass	Indian Ricegrass	Smooth Brome Grass	Crested Wheatgras s
Transect #1	3 (Bailer Station)	----	----	----	----	7%	27%
Transect#2	3 (Bailer Station)	----	----	----	----	15%	44%
Transect #3	2(Arrowhea d)	25%	----	----	20%	----	----
Transect #4	4a (Big BLM)	----	----	----	----	----	4%
Transect #5	5 (Little BLM)	----	----	----	----	----	2.5%
Transect #6	6 (Pine Valley)	----	2.5%	----	----	----	2.5%
Transect #7	6 (Pine Valley)	----	2.5%	----	----	----	----

**Jackson Wash (Transect #1):** Cattle used this pasture early summer. Key species are green from recent rain 2-3” on new growth on smooth brome (Smooth Brome Grass). The sagebrush shows good health and appears not to be affected from drought conditions.

**Jackson Wash (Transect #2):** Cattle used this pasture early summer. Old and recent horse sing in evident. Un-grazed smooth brome (Smooth Brome Grass) is only 1-2” but is actively growing from recent storms. Indian Ricegrass (Indian Ricegrass) is sparse and crested wheatgrass (Crested Wheatgrass) is scattered and 3-4” un-grazed.

**Jackson Wash (Transect #3):** Cattle and horse use. Western wheatgrass (Western Wheatgrass) is currently showing fair health with recent storms but low vigor. 3-4” un-grazed from this year.

**Jackson Wash (Transect #4):** No summer cattle use. No recent sign of horse use along the transect. 4-6” of new growth on the majority of crested wheatgrass (Crested Wheatgrass) and is starting to produce some seed heads. Overall health and vigor are good. The area just recently received some decent rainstorms the last few weeks.

**Jackson Wash (Transect #5):** No summer cattle use. No sign of recent horse or elk use along the transect. Similar to the last transect.

**Jackson Wash (Transect #6):** No summer cattle use. Recent storms have kick started green up on both cool and warm season grasses along this transect. Some Indian Ricegrass is producing seed heads and is 5-6” un-grazed. Some patches of Galleta Grass are also setting seed 12-15” un-



grazed. The overall health and vigor of perennial grasses is good. See picture in file of all the juniper turning brown and dying from drought in this pasture.

**Jackson Wash (Transect #7):** Like the last transect. 5-7” of new growth on Indian Ricegrass & needle and thread grass. Took pictures before and after utilization cage was moved.

### Utilization Fall Use

TRANSECT T # NUMBER	PASTURE	KEY SPECIES UTILIZATION					
		Western Wheatgras s	Indian Ricegrass/ Needle and Threadgra ss	Galleta Grass	Indian Ricegrass	Smooth Brome Grass	Crested Wheatgras s
Transect #1 (KA)	6 (Pine Valley)	----	38%	----	----	---	---
Transect#2	6 (Pine Valley)	----	32%	21%	----	----	----
Transect #3	5(Little BLM)	----	----	----	----	----	25%
Transect #4	5 (Little BLM)	----	----	----	----	----	28%
Transect #5	4a	----	----	----	----	----	28%
Transect #6	4a	----	Not enough samples	----	----	----	40%
Transect #7	2 (Pinto)	33%	----	----	----	----	----
Transect #8	2 (Pinto)	----	----	----	----	38%	----
Transect #9	2 (Pinto)	40%	----	----	----	----	----
Transect #10	3 (Bailer Station)	----	----	----	----	35%	56%
Transect #11	3 (Bailer Station)	----	----	----	----	30%	----
Transect #12	3 (Bailer Station)	----	----	----	----	20%	----

**Jackson Wash (Transect #1, KA):** Fall livestock use is apparent. Also sign from elk use along the transect. This area got some of the July/August rains but has been followed by a warm dry fall. Overall perennial grasses show poor vigor and had little to no seed production this past growing season. The grasses that did grow only had new growth of 2-3 inches.

**Jackson Wash (Transect #2):** This transect is west of the water trough and has a good warm/cool season grass component. Galleta Grass looks good from the summer rains. Cool season grasses show poor vigor and health. Cattle have also used this portion of the pasture this fall.

**Jackson Wash (Transect #3):** Minimal fall livestock use is apparent along the transect, majority of recent tracks are from wild horses and elk. A lot of un-grazed Crested Wheatgrass in the canopy

of the brush. The majority of Crested Wheatgrass is still green with the warm fall weather. Overall shows fair vigor.

**Jackson Wash (Transect #4):** Fall utilization from cattle, wild horses and elk is apparent along the transect. Blue grama (Blue Gramma) responded well from summer rains but has still not been utilized in this area.

**Jackson Wash (Transect #5):** Most of the fall use along this transect appears to be from wild horses as indicated by the amount of recent manure and tracks. Cattle and elk tracks are few. Crested Wheatgrass is still green and showing fair vigor.

**Jackson Wash (Transect #6):** Only wild horse use is apparent along the transect as indicated by the number of recent tracks. Appears to be an area they have been frequenting lately, most likely due to the crested wheatgrass (Crested Wheatgrass) being green. Three wild horses were located in the area.

**Jackson Wash (Transect #7):** Cattle use in this pasture was from in the summer. Only sign of horse use from this fall as indicated by the amount of recent wild horse tracks and manure. Nine wild horses were present in the area. Some new growth on Western Wheatgrass (Western Wheatgrass) but overall poor vigor, especially with constant grazing pressure from the wild horses that have moved into the area not allowing for recovery of grasses.

**Jackson Wash (Transect #8):** Twenty wild horses present in the area. Smooth Brome (Smooth Brome Grass) has some green and has had new growth since summer rains but has seen constant grazing pressure from wild horses since the cattle moved off this summer.

**Jackson Wash (Transect #9):** Most of the fall use is from wild horses and some elk as indicated by recent tracks, manure and scat. Some new growth on Western Wheatgrass (Western Wheatgrass) since summer rains but is getting constant grazing pressure from wild horses. The grazed grasses continue to stay green and get continually pick out by wildlife and wild horses not allowing proper recovery for grasses especially under drought conditions.

**Jackson Wash (Transect #10):** Smooth brome (Smooth Brome Grass) and crested wheatgrass (Crested Wheatgrass) are still green resulting in repeated use from wild horses and wildlife. It has been a warm fall following summer rains and one early snowstorm in October, typically grasses should be dormant. Cattle used this pasture early summer. Overall vigor of grasses is poor and extremely short.

**Jackson Wash (Transect #11):** Four wild horses present in the area. Un-grazed smooth brome grass 1-3 inches.

**Jackson Wash (Transect #12):** Minimal recent horse use along this transect. Smooth brome grass (Smooth Brome Grass) is less prevalent and still only 1-3 inches un-grazed.

## Utilization Winter Use

TRANSECT # NUMBER	PASTURE	KEY SPECIES UTILIZATION					
		Intermediate Wheatgrass	Indian Ricegrass/Needle and Threadgrass	Galleta Grass	Indian Ricegrass	Smooth Brome Grass	Crested Wheatgrass
Transect #1	7	----	61%	19%	----	----	----
Transect#2	7	----	----	19%	46%	----	----
Transect #3	7	----	----	24%	55%	----	----
Transect #4	8	----	15%	----	----	----	----

**Jackson Wash (Transect #1):** Eight wild horses present in the area. No winter livestock use, most use is from wild horses. Cool season grasses are extremely limited. Warm season grasses had little to no growth from last years and show poor health going into the spring.

**Jackson Wash (Transect #2):** No winter livestock use. Most of the use is from wild horses, indicated from old and recent manure along the transect. Warm season grasses are more prevalent than cool season; however cool season grasses are what's being utilized. Some old elk scat was also along the transect.

**Jackson Wash (Transect #3):** No livestock winter use. Old and recent wild horse manure and some old elk scat. Mostly warm season Galleta and Purple Three-Awn make up the grass component and are not being utilized. See pictures, the small juniper trees encroaching into the sagebrush flat are turning brown from drought conditions.

**Jackson Wash (Transect #4):** No winter livestock use but has had some livestock use since the last growing season. This pasture has a good perennial grass component, but poor health from drought conditions.

## G. Jockeys Allotment

The Jockeys Allotment consists of the following acreage by land ownership status:

ALLOTMENT	PUBLIC ACRES	PRIVATE ACRES	STATE ACRES
Jockeys	40,636	5,715	882

The following tables illustrate the grazing management system within the Jockeys Allotment.

PERMITTEE	CLASS	NUMBER	GRAZING BEGIN	GRAZING END	AUMS
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Jed & Rebecca Albrecht	Cattle	27	10/16	5/14	188
	Cattle	100	5/15	10/15	506
Russell A. Albrecht	Cattle	27	10/16	5/14	188
	Cattle	100	5/15	10/15	506

Season of use	Number of Livestock	Year 1	Year 2	Year 3	Year 4	Year 5
03/01 – 05/14	54	Swamps	Jockeys	Prouts Wash	Blue Mtn.	Blawn Wash (Teton)
05/15 – 06/14	200	Jockeys	Prouts Wash	Blue Mtn	Blawn Wash (Teton)	Swamps
06/15-08/15		Prouts Wash	Blue Mtn	Blawn Wash (Teton)	Swamps	Jockeys
08/16-10/15		Blue Mtn	Blawn Wash (Teton)	Swamps	Jockeys	Prouts Wash
10/16 – 02/28	54	Blawn Wash (Teton)	Swamps	Jockeys	Prouts Wash	Blue Mtn
		Swamps	Jockeys	Prouts Wash	Blue Mtn.	Blawn Wash (Teton)

### Actual Use Data

YEAR/ALLOTMENT	JOCKEYS
2021	270
2020	851
2019	730
2018	457
2017	559
2016	639*
2015	330
2014	615
2013	1253
2012	771
2011	455
2010	426
2009	526
<b>Average</b>	<b>606</b>

\*Note actual use was taken from grazing bills, actual use reports were not available.

### a. 2012 Utilization

Utilization data was collected within the Jockeys Allotment on November 28, 2012 following the 2012 grazing year. The following table illustrates the livestock use that occurred in the 2012 grazing year.

Transect Number	Pasture	KEY SPECIES UTILIZATION				
		Indian Ricegrass	Galleta Grass	Crested Wheatgrass	Needle & Thread Grass	Intermediate Wheatgrass
06221-01-1	Blue Mtn. (Millers)	20%	8%	----	----	----
06221-03-02	Blawn Wash (Teton)	----	----	47%	----	----
06221-04-03	Jockey Seeding	----	----	49%	----	----
06221-05-05	Swamps	24%	----	----	24%	11%
06221-02-13	Prouts Wash	21%	18%	----	21%	----

**06221-01-1 (Blue Mtn. Pasture):** Indian Ricegrass and needle and thread are the Key Species at this site. Other species present include: Wyoming Big sagebrush, Galleta Grass, Indian Ricegrass, Winterfat, Utah Juniper, Globemallow, cheatgrass, phlox, Ephedra, Bottlebrush Squirrealtail, broom snakeweed, Green Rabbitbrush, needle and thread, and Sand Dropseed. Plant health and vigor is good, although some dead centers in ricegrass. Utah Juniper is encroaching onto site. Shrubs are dominant on site; grasses somewhat lacking on the site. Residual cover is good and seed production was evident on perennial grasses. This site has received light grazing pressure. Livestock sign was present, but not abundant. Wild horse and mule deer sign also present.

**06221-03-02 (Blawn Wash Pasture):** Crested Wheatgrass is the Key Species on this site and is abundant. Other species present include: Wyoming Big Sagebrush, Pinion Pine, Utah juniper, Black Sagebrush, Palmers Penstemon, and Bitterbrush. This site is located within a vegetation treatment. Plant health and vigor is good, although some pedestalling was evident (particularly around Crested Wheatgrass and bunchgrasses). This site has received moderate grazing pressure. Elk, wild horse, and livestock sign were all present at the site. There is extensive pinion/juniper encroachment into old vegetation treatment.

**06221-04-03 (Jockey Seeding Pasture):** Crested wheatgrass is the Key Species on this site and is abundant. Other species present include: Wyoming Big Sagebrush, Rubber Rabbitbrush, Utah juniper, phlox, Bottlebrush Squirrealtail, Galleta Grass, Blue Grama, and Indian Ricegrass. This site is located within a vegetation treatment. Plant health and vigor is good, although some decadence in Wyoming Big Sagebrush and slight pedestalling was evident (particularly around Crested Wheatgrass and bunchgrasses). This site has received moderate grazing pressure. Elk, wild horse, and livestock sign were all present at the site; livestock sign is abundant. There is fairly extensive juniper encroachment into old vegetation treatment.

**06221-05-05 (Swamps Pasture):** Indian Ricegrass, Needle-and-Thread and Intermediate Wheatgrass comprise the Key Species on this site. Other species present include: Utah juniper, pinion pine, Black Sagebrush, Bottlebrush Squirreletail, Galleta Grass, Ephedra, Blue Grama, phlox, buckwheat, Sand Dropseed, Palmers Penstemon. Pinion/juniper are very abundant. Plant health and vigor is good, although there are some dead centers in Indian Ricegrass plants. This site has received light grazing pressure. Livestock sign was very sparse. Mule deer sign also present.

**06221-02-13 (Prouts Wash Pasture):** Indian Ricegrass, Needle-and-Thread and Galleta Grass comprise the Key Species on this site. Other species present include: Wyoming Big Sagebrush, Fourwing Saltbush, Black Sagebrush, Bottlebrush Squirreletail, Purple Three-Awn, Intermediate Wheatgrass, cheatgrass, Blue Grama, phlox, Sand Dropseed, Globemallow, and broom snakeweed. Plant health and vigor is good, although some decadence in Wyoming Big Sagebrush. No excessive soil movement observed. This site has received light grazing pressure, primarily from wild horses and elk. Recent livestock sign was not observed. Mule deer sign also present.

**b. 2012/2013 (Fall/Winter Use)**

Utilization data was collected within the Jockeys Allotment following the March 21, 2013 grazing year. The following table illustrates the livestock use that occurred in the 2013 grazing year.

Transect Number	Pasture	KEY SPECIES UTILIZATION					
		Winterfat	Indian Ricegrass	Galleta Grass	Crested Wheatgrass	Needle & Thread	Intermediate Wheatgrass
06221-01-1	Blue Mtn. (Millers)	30%	33%	4%	----	----	----
06221-03-02	Blawn Wash (Teton)	---	----	----	64%	----	----
06221-04-03	Jockey Seeding	---	----	----	80%	----	----
06221-05-05	Swamps	----	28.5%	----	----	----	----
06221-02-13	Prouts Wash		67.7%	22%	----	---	----

**06221-01-1 (Blue Mtn. Pasture):** Indian Ricegrass, Galletta and Winterfat are the Key Species at this site. Other species present include: Wyoming Big sagebrush, Utah Juniper, cheatgrass, phlox, Ephedra, Bottlebrush Squirreletail, Broom Snakeweed, Green Rabbitbrush, Prickly Pear Cactus, and fourwing. Utah Juniper is encroaching onto site. Shrubs are dominant on site; grasses somewhat lacking on the site. This site has received light grazing pressure. Livestock sign was present, but not abundant. Wild horse and elk sign also present. Indian Ricegrass had 1 to 2 inches in green up.

**06221-03-02 (Blawn Wash Pasture):** Crested Wheatgrass is the Key Species on this site. Other species present include: Wyoming Big sagebrush, Pinion Pine, Utah juniper, Black Sagebrush, Palmers Penstemon, Rubber Rabbitbrush, Ephedra and bitterbrush. This site is located within a vegetation treatment. This site has received moderate to heavy grazing pressure. Elk, wild horse, and livestock sign were all present at the site. The cattle sign was old. There is extensive pinion/juniper encroachment into old vegetation treatment. A little snow flurry occurring some

snow patches between the trees on the north facing slopes. In the open area of the treatment wild horses have heavily grazed and have hit the area pretty hard. Crested Wheatgrass just starting to green up was 1 to 2". 3 wild horses sited .3 miles from the trend site.

**06221-04-03 (Jockey Seeding Pasture):** Crested Wheatgrass is the Key Species. Other species present include: Wyoming Big sagebrush, Rubber Rabbitbrush, Utah juniper, Galleta Grass, Broom Snakeweed, Bitterbrush and Indian Ricegrass. This site has received heavy grazing pressure. Elk, wild horse, and some livestock sign were all present at the site; livestock sign is old. Some of the old growth is litter now. There was 2" of new green up Crested Wheatgrass.

**06221-05-05 (Swamps Pasture):** Indian Ricegrass comprise the Key Species on this site. Other species present include: Needle-and-Thread and Intermediate Wheatgrass, Utah juniper, pinion pine, Bottlebrush Squirreltail, Galleta Grass, Ephedra, Blue Gramma, and Phlox. Pinion/juniper is very abundant. This site has received light grazing pressure. Rabbit and wild horse sign present. There was a slight skiff of snow on the ground.

**06221-02-13 (Prouts Wash Pasture):** Indian Ricegrass and Galleta Grass comprise the Key Species on this site. Other species present include: Wyoming Big Sagebrush, Needle-and-Thread, Fourwing Saltbush, Black Sagebrush, Cheatgrass, Juniper and Pinyon Pine and Broom Snakeweed. No excessive soil movement observed. This site has received heavier grazing pressure, primarily from wild horses and elk and some cattle. Recent livestock sign was observed. Cattle sign all along the wash leading up to the Key Area.

The majority of use was horse and elk throughout the winter and early spring. The permittees did not have any livestock present within the allotment until March 1<sup>st</sup>.

### c. 2014 Utilization – Pre-Livestock

Utilization data was collected within the Jockeys Allotment following the November 6, 2013 grazing year. The following table illustrates the livestock use that occurred in the 2013 grazing year.

TRANSECT NUMBER	PASTURE	Jockeys Allotment				
		KEY SPECIES UTILIZATION				
		Galletta Grass	Indian Ricegrass	Crested Wheatgrass	Needle and Thread	Intermediate Wheatgrass
1	Blawn Wash	50%	60%	-	-	-
2		-	-	72%	-	-
3		-	-	70%	-	-
4		-	-	50%	-	-
5	Jockeys Seeding	-	-	67%	-	-
6		-	-	62%	-	-
7	Swamps	10%	19%	-	12%	-
8		-	-	-	10%	-
9	Blue Mt.	4%	24%	-	9%	-

**Transect 1:** Indian Ricegrass and Galletta Grass were the dominant perennial grasses present. Indian Ricegrass in open spaces was moderately/heavily grazed. There was some livestock sign present; however, the majority of sign was wild horses.

**Transect 2:** The dominant perennial grass was Crested Wheatgrass. Crested Wheatgrass in open spaces was heavily grazed. Livestock and wild horse sign were present throughout the area.

**Transect 3:** Crested Wheatgrass was the dominant perennial grass. There was heavy rabbit sign throughout the area. Livestock and wild horse sign was present within the area.

**Transect 4:** The dominant perennial grass was Crested wheatgrass. Elk and wild horse sign were present within the area. Bitterbrush showed signs of use in the winter; however, it was healthy.

**Transect 5:** The dominant perennial grass was Crested wheatgrass. There were 20 head of livestock present within the pasture. Livestock sign was present. There was no wild horse sign present.

**Transect 6:** The dominant perennial grass was Crested wheatgrass. Livestock present within the pasture. Livestock sign was present. There was no wild horse sign present.

**Transect 7:** Perennial grasses including needle-and-thread, Indian Ricegrass and galletta grass were present within the area. Wild horse and elk sign were present throughout the area. There was no livestock sign present.

**Transect 8:** Needle-and-thread was the dominant perennial grass that was present within the area. Wild horse and elk sign were present within the area.

**Transect 9:** Indian Ricegrass, needle-and-thread and galletta grass were present within the area. There was no livestock sign. There was light wild horse and elk sign within the area.



**a. 2017 Utilization**

Jockeys Allotment										
TRANSECT NUMBER	PASTURE	KEY SPECIES UTILIZATION								
		Curly grass	Indian Ricegrass	Russian Wild Rye	Needle and Thread	Intermediate Wheatgrass	Crested wheatgrass	Bottlebrush Squaretail	Mutton Grass	Sand Drop Seed
1	Blawn Wash	-	-	-	4.4%	5.4%	-	-	-	-
2		58%	58.5%	-	-	-	-	-	-	-
3		-	34.6%	39%	-	-	-	-	-	-
4		-	-	44.8%	-	-	33.4%	-	-	-
5	Jockeys Seeding	57%	-	-	-	-	60%	-	-	-
6		-	-	-	-	-	58.6%	-	-	-
7	Swamps	-	50%	-	-	-	-	49%	-	-
8		-	14%	-	-	-	-	-	10%	-
9	Blue Mt.	5%	-	-	5.9%	-	-	-	-	-
10	Prout's wash	13.4%	-	-	-	-	-	-	-	10.6%

Jockey August 10, 14, 2017 Utilization Transect results are as follows:  
 (---) too few samples or not present

**Transect 1:** Intermediate wheatgrass and Needle-an-thread grass were the dominant perennial grasses present There was some livestock sign present; however, the majority of sign was wild horses.

**Transect 2:** Indian Ricegrass and galletta grass were the dominant perennial grasses present. Indian Ricegrass in open spaces was moderately/heavily grazed. Crested wheatgrass also used. There was some livestock sign present; however, the majority of sign was wild horses.

**Transect 3:** Crested wheatgrass was present but the dominant perennial grasses were Indian Ricegrass and Russian Wildrye. Wild horse and elk sign was present within the area.

**Transect 4:** The dominant perennial grass was Crested wheatgrass with some Russian Wildrye. Elk and wild horse sign were present within the area.

**Transect 5:** The dominant perennial grass was Crested wheatgrass and curlygrass. Only seedheads in tacked is hidden in sagebrush.

**Transect 6:** The dominant perennial grass was Crested wheatgrass. Livestock sign was present. There was no wild horse sign present.

**Transect 7:** Perennial grasses including Indian Ricegrass and battlebrush squirreltail grass were present within the area. Wild horse and elk sign were present throughout the area. There was no livestock sign present.

**Transect 8:** Indian Ricegrass was the dominant perennial grass that was present within the area. Wild horse sign was present within the area.

**Transect 9:** Indian Ricegrass and mutton grass were present within the area. There was no livestock sign. There was wild horse, deer, and elk sign within the area.

**Transect 10:** Curley grass and sanddrop seed were present within the area. There was no livestock sign. There was wild horse and elk sign within the area.

## H. Lone Pine Spring Allotment

The Lone Pine Spring Allotment consists of the following acres:

ALLOTMENT	PUBLIC ACRES	STATE ACRES	PRIVATE ACRES	TOTAL
Lone Pine Spring	29,754	1,671	431	31,856

The following table illustrates the grazing management system within the Lone Pine Spring Allotment.

PERMITTEE	GRAZING BEGIN	GRAZING END	AUMS
Matthew Wood	06/01	11/30	1,095

Year	June-July	August-September	October-November
1	Four-mile Pasture	Mountain Spring Wash Pasture	Sawmill & Rustler Draw Pasture
2	Mountain Spring Wash Pasture	Sawmill & Rustler Draw Pasture	Four-mile Pasture
3	Sawmill & Rustler Draw Pasture	Four-mile Pasture	Mountain Spring Wash Pasture

*\* To facilitate this rotation system the Rustlers Draw and Sawmill Pastures will be used simultaneously.*

## Actual Use Data

YEAR/ALLOTMENT	LONE PINE SPRING
2021	662
2020	1086
2019*	*1095
2018*	*1095
2017	290
2016	1053
2015	880
2014	1091
2013	908
2012	748
2011	1,007
2010	541
2009	492
<b>Average</b>	<b>842</b>

\*Note actual use was taken from grazing bills, actual use reports were not available.

### a. 2009 Utilization

Utilization data was collected within the Lone Pine Spring Allotment on November 10, 2009 following the 2009 grazing year. The following table illustrates the livestock use that occurred in the 2009 grazing year.

Allotment	Transect #	Species	Utilization %
Lone Pine Spring	1	Crested wheatgrass	70
	2	Intermediate wheatgrass	58.3
		Indian Ricegrass	66.4

**Transect #1 (SITLA section):** Area is heavily used. Use can be ascribed to wild horse and cattle; however, most of the recent use can be attributed to cattle. This can be concluded for several reasons: Casual observations prior to livestock turnout showed that grass vigor was good and very few wild horses were observed in the area. There was a wild horse gather in the HMA in July of 2009. And during utilization measurements, most wild horse sign was more than a year old. Casual observation this summer revealed that use was so heavy that cattle were eating sagebrush. Intermediate wheatgrass is also in the area and similar heavy use to crested wheatgrass.

**Transect #2:** Use was slightly lighter on this transect than on #1, however, use is still heavy and uniform throughout the area. Indian Ricegrass, crested wheatgrass, and Winterfat are also present but sporadic in the area. Herbaceous and shrub (Winterfat) vigor is poor.

## **b. 2010 Utilization**

Utilization data was collected within the Lone Pine Spring Allotment on August 9, 2010, following the 2010 grazing year. The following table illustrates the livestock use that occurred in the 2010 grazing year.

Transect Number	Pasture	KEY SPECIES UTILIZATION	
		Crested Wheatgrass	Western Wheatgrass
05134-02-01	Mountain Spring	----	51%
05134-03-02	Rustlers Draw	25%	----

**05134-02-01:** Western wheatgrass was the dominant perennial grass at the Key Management Area. Crested wheatgrass and Winterfat were also present; however, they were widely scattered and had poor vigor. There was recent livestock and wild horse sign within the area. There was no visible soil erosion.

**05134-03-02:** Crested wheatgrass was the dominant perennial grass present within the area. Perennial grasses were vigorous throughout the area. Wild horse and cattle sign were within the area.

## **c. 2011 Utilization**

Utilization data was collected within the Lone Pine Spring Allotment on August 24, 2011, following the 2011 grazing year. The following table illustrates the livestock use that occurred in the 2011 grazing year.

Transect Number	Pasture	KEY SPECIES UTILIZATION
		Crested Wheatgrass
05134-03-02	Rustlers Draw	51%

**05134-03-02:** Crested wheatgrass was the dominant perennial grass. Intermediate wheatgrass was also present within the area. The majority of perennial grasses had set seed. The majority of perennial grass was caged in shrubs. Wyoming Big Sagebrush was vigorous and had good leader growth. There was no visible soil erosion present. Wild horse and livestock sign were present within the area.

## **d. 2012 Utilization**

Utilization data was collected within the Lone Pine Spring Allotment on December 7, 2012, following the 2012 grazing year. The following table illustrates the livestock use that occurred in the 2012 grazing year.

Transect Number	Pasture	KEY SPECIES UTILIZATION				
		Crested Wheatgrass	Intermediate Wheatgrass	Indian Ricegrass	Western Wheatgrass	Galletta Grass
05134-01-3	Four Mile Pasture	----	7%	33%	----	16%
05134-02-1	Mountain Spring Wash Pasture	----	48%	46%	----	----
05134-03-2	Sawmill/Rustler	26%	9%	----	----	----

**05134-01-3 (Four Mile Pasture):** This site is adjacent to a reseeded burn. With the current dry conditions, the average plant height is 3-6” inches. Plant community composition is good. Seed set is fair with overall good plant health and vigor. This site is within ½ mile of a pond. 11 head of wild horses were seen within the pasture.

**05134-02-1(Mountain Spring Wash Pasture):** This site appears to have been overgrazed in the past. Plant health and vigor is relatively poor with little to no seed heads/seed set. There is very little bare ground with small interspaces between plants. Cattle use is evident and there was 6+ head of wild horses seen within the pasture. The average plant height was 4-6” inches.

**05134-03-2(Sawmill/Rustler):** This site is within an old chaining and reseeded area. There is good diversity of grasses, forbs, and shrubs with Crested wheatgrass being the most common perennial grass on site. The average annual growth of crested wheatgrass is 6-12” inches. There were abundant cattle and horse signs throughout the site and 7 head of wild horses were seen within ¼ mile of the key area. Residual cover was good.

### e. 2013 Utilization

Utilization data was collected within the Lone Pine Spring Allotment on November 6 and 21, 2013 following the 2013 grazing year. The following table illustrates the livestock use that occurred in the 2013 grazing year.

Transect Number	Pasture	KEY SPECIES UTILIZATION				
		Crested Wheatgrass	Intermediate Wheatgrass	Indian Ricegrass	Western Wheatgrass	Galletta Grass
Broken Ridge ESR #1	Broken Ridge/Four Mile	----	67%	50%	----	----
Transect #1	Mountain Spring	74%	74%	70%	----	----
Transect #2	Broken Ridge/Four Mile	----	71%	----	----	----
Transect #3	Mountain Spring Wash	----	----	78%	76%	77%
Transect #4	Mountain Spring Wash	----	----	21%	----	36%
Transect #5	Four Mile	----	----	25%	54%	----
Transect #6	Four Mile	----	64%	----	----	----
Transect #7	Four Mile	----	58%	----	----	----
Transect #8	Mountain Spring Wash	----	----	40%	----	29%
Transect #9	South Seeding (Sawmill)	46%	----	----	----	----
Transect #10	South Seeding (Sawmill)	70%	----	----	----	----
Transect #11	Mountain Spring Wash	----	----	----	56%	----
Transect #12	Mountain Spring Wash	----	----	56%	----	----

**Transect #1:** Heavy Grazing was apparent, which made it difficult to distinguish between Crested wheatgrass and Intermediate wheatgrass. Site was visited in September 2013, and grasses were green with 10-16 inches tall with negligible grazing apparent. Some wild horse sign present but was not fresh and appeared to be from previous winter or summer.

**Broken Ridge ESR #1:** The site displayed good late summer/early fall green-up. It was difficult to distinguish grasses due to heavy use (avg. 1-2" height). Grazing use was heavy on Intermediate wheatgrass, and moderate on Indian Ricegrass. There were relatively few seed heads that remained, with none on Palmer penstemon. All Small Burnett is grazed severely (not key species). Fresh wild horse tracks and elk sign present. One cow observed on site.

**Transect #2:** The transect is 0.6 miles north of trough & runs straight up the ridge. Grazing use on Intermediate wheatgrass was heavy. Use on Small Burnett is heavy (not key species). Approximately 20 wild horses in 3 separate bands were observed in the area.

**Transect #3:** The transect represents from where observer entered the allotment south to the Jackson Wash Road. Some grasses were difficult to distinguish due to heavy use on Indian Ricegrass, Galleta Grass and Western wheatgrass.

**Transect #4:** The transect departs from a small mining road. Cattle sign is present, but forage is sparse. Community is primarily dominated by pinion/juniper (P/J) woodland with Black Sagebrush.

**Transect #5:** Grazing use was moderate on Indian Ricegrass and light on Western wheatgrass and Blue Gramma is abundant and have majority of seed heads remaining.

**Transect #6:** Transect was located on top of Broken Ridge Fire. Grazing use was heavy on Intermediate Wheatgrass. Use appears to be from cattle, wild horses, and elk as sign of all species were present, however, cattle appear to have contributed the most. Site is dominated by pinyon and juniper.

**Transect #7:** This site exhibited the least amount of grazing use on the Broken Ridge seeding. Use on Intermediate wheatgrass is moderate. Three head of cattle observed. Use on small burnett (not key species) was heavy to severe.

**Transect #8:** Galleta Grass and Blue Gramma were very productive on this site with seed heads evident. Indian Ricegrass was sparse. Use on Indian Ricegrass and galleta grass was light. Cattle, wild horse, and elk sign were not abundant, and cattle seem to be sticking to the draws and new fire ESR.

**Transect #9:** Some snow was present when use was collected which may have made it difficult to observe severely grazed plants. Decreasing perennial grasses and increasing sagebrush appear to be the trend for this site. Grazing use on Crested wheatgrass was moderate.

**Transect #10:** Cattle seem to have been a little more concentrated on this site. Area was thoroughly searched, and all areas exhibited the same amount of use. Grazing use on Crested wheatgrass was heavy.

**Transect #11:** The site has some Winterfat remaining and appears that it could be making a comeback on the site. Grazing use on Western wheatgrass was moderate at this site. Some snow was present on the site that may have made it difficult to observe severely grazed plants.

**Transect #12:** This site had abundant Blue Gramma with seed heads remaining. Grazing use on Indian Ricegrass was moderate on this site.

**f. 2014 Utilization – (Pre-livestock)**

Pre-livestock utilization data was collected within the Lone Pine Spring Allotment on April 10, 2014, following the 2014 grazing year. The following table illustrates the livestock use that occurred in the 2014 grazing year.

Transect # Number	Pasture	KEY SPECIES UTILIZATION			
		Indian Ricegrass	Galleta Grass	Crested wheatgrass	Antelope Bitterbrush
Transect 1	Four Mile	-----	-----	76%	58%
Transect 2	Four Mile	71%	-----	70%	55%
Transect 3	Four Mile	64%	55%	79%	-----
Transect 4	Four Mile	70%	60%	73%	-----

**Transect 1 (Four Mile Pasture):** The site is in the Broken Ridge 2006 Emergency stabilization and rehabilitation area. Utilization was collected on old growth or last year's growth. The site has limited residual growth with an average of less than 3 inches in height. The current growth or green up is around 3 inches tall and shows little use. This area has been grazed by cattle, wild horses and Elk. 33 head of wild horses were seen within the pasture.

**Transect 2 (Four Mile Pasture):** The site is in the Broken Ridge 2006 Emergency stabilization and rehabilitation area. Utilization was collected on old growth or last year's growth. There is good plant species diversity of grasses, forbs and shrubs. There is a limited amount of residual grass. This year's green up and growth averages 3 inches tall. The Black Sagebrush on the site did not show any signs of grazing. This area has been grazed by cattle, wild horses and Elk. 33 head of wild horses were seen within the pasture.

**Transect 3 (Four Mile Pasture):** The site is in the Broken Ridge 2006 Emergency stabilization and rehabilitation area. Utilization was collected on old growth or last year's growth. Grasses were grazed short (less than 3 inches). This year's green up and growth averages 3 inches tall. This site is located in the bottom of a draw and appears to have received significant use by cattle, wild horses and elk. 33 head of wild horses were seen within the pasture.

**Transect 4 (Four Mile Pasture):** The site is in the Broken Ridge 2006 Emergency stabilization and rehabilitation area. Utilization was collected on old growth or last year's growth. The site had and good diversity of grasses, forbs and shrubs. Residual height of grasses is limited and grazed short (less than 3 inches). This year's growth is between 3-6 inches. This site is within ¼ mile of a earth and dam pond and has been grazed by cattle, wild horses and elk. 33 head of wild horses were seen within the pasture.



## g. 2015 Utilization

### December 15<sup>th</sup>

Transect # Number	Pasture	KEY SPECIES UTILIZATION			
		Intermediate Wheatgrass	Bluebunch Wheatgrass/ Western Wheatgrass	Crested Wheatgrass	Needle & Thread
Transect 1	Four Mile	50%	50%	51%	-----
Transect 2	Four Mile	35%	35%	33%	-----
Transect 3	Four Mile	56%	56%	67%	-----
05134-02-1	Mountain Spring	-----	51%	-----	63%

### June 10<sup>th</sup>

Transect # Number	Pasture	KEY SPECIES UTILIZATION			
		Intermediate Wheatgrass	Bluebunch Wheatgrass/ Western Wheatgrass	Crested Wheatgrass	Needle & Thread
05134-03-2	Sawmill/Rustler	-----	-----	10%	-----
05134-02-1	Mountain Spring	-----	2.5%	-----	3%

### April 27<sup>th</sup>

Transect # Number	Pasture	KEY SPECIES UTILIZATION			
		Intermediate Wheatgrass	Bluebunch Wheatgrass/ Western Wheatgrass	Crested Wheatgrass	Needle & Thread
Transect 1	Four Mile	60%	34%	60%	-----
05134-03-2	Sawmill/Rustler	-----	-----	39%	-----

**Transect 1 (Four Mile Pasture):** The site is in the Broken Ridge 2006 Emergency stabilization and rehabilitation area. There is a good diversity of grasses, forbs, and shrubs. Intermediate wheatgrass, Blue Bunch Wheatgrass and crested are the most abundant perennial grass species present.

**Transect 2 (Four Mile Pasture):** The site is in the Broken Ridge 2006 Emergency stabilization and rehabilitation area. The key species is Western Wheatgrass, Intermediate wheatgrass and crested wheatgrass. Health, vigor and seed set are good for all perennial grasses.

**Transect 3 (Four Mile Pasture):** The site is in the Broken Ridge 2006 Emergency stabilization and rehabilitation area. This site has good diversity of grasses with crested wheatgrass, Intermediate Wheatgrass and Western Wheatgrass being the most abundant. 41 head of wild horses were seen in the pasture.

**05134-02-1 (Mountain Spring Pasture):** Production is relatively low for this site. Ungrazed grass height ranges from 6-10 inches tall. Western wheatgrass is the most abundant perennial grass species with needle and thread and Indian Ricegrass being present but less abundant.

**05134-03-02 (Sawmill/Rustler Pasture):** No livestock have been in this pasture since November 2014. There are horse tracks and feces throughout the site with 4 wild horses on the ridge adjacent

to transect. Rubber rabbitbrush and Wyoming Big Sagebrush are the dominant vegetation with crested wheatgrass in the understory. Crested wheatgrass has limited health and vigor with the ungrazed grass height being 6 inches tall.

**05134-02-1 (Mountain Spring Pasture):** Western wheatgrass and needle and thread are the most

TRANSECT # NUMBER	PASTURE	KEY SPECIES UTILIZATION					
		Intermediate Wheatgrass/Western Wheatgrass	Bluebunch Wheatgrass	Crested Wheatgrass/Bluebunch Wheatgrass	Russian Wildrye	Bluebunch Wheatgrass/Western Wheatgrass	Indian Ricegrass/Needle and Threadgrass
Transect #1	Four Mile Wash	39%	37%	----	49%	----	----
Transect #2	Four Mile Wash	45%	----	36%	39%	----	46%
Transect #3	Four Mile Wash	45%	----	47%	----	----	48%
05134-02-01	Mountain Spring Wash	----	----	----	----	49%	----

abundant perennial grasses present. Indian Ricegrass is present but limited in abundance. Grasses have fair health, vigor, and seed set.

**Transect 1 (Four Mile Pasture):** The site is in the Broken Ridge 2006 Emergency stabilization and rehabilitation area. The site has a good diversity of grasses and forbs. Crested wheatgrass, Intermediate wheatgrass and Blue Bunch Wheatgrass are the key species and the most abundant on the site. Use was measured on last year's growth (residual) Some of the grasses were grazed clear to the base. This allotment is within a Horse Management Area and is home to cattle, wild horses, and Elk. Green up/ current year's growth averages 6-8 inches tall with some grasses being over a foot tall. Bitterbrush is flowering and looks good.

**05134-03-02 (Sawmill Pasture):** Utilization was done on last year's growth (residual growth) Current year's growth shows little to no use. This site is in a crested wheatgrass seeding and crested wheatgrass has limited health and vigor. Seven wild horses were seen in this pasture.

## h. 2016 Utilization

**\*Utilization was collected post-turnout of livestock. Utilization was recorded to reflect on use after livestock use for 2016.**

**Lone Pine Spring (Transect 1):** Cattle and horse sign evident. Grazed off wheatgrasses are hard to distinguish. Un-grazed grass heights include: Russian Wildrye 22-24", Blue Bunch Wheatgrass 8-12" and Intermediate Wheatgrass/Western Wheatgrass 8-15".

**Lone Pine Spring (Transect 2):** Recent cattle and horse sign evident of species use. Wild horses seem to concentrate to this portion of the broken ridge fire evident by the amount of sign. Site has good diversity of grasses. Use levels have gone from slight/light to moderate post turnout.

**Lone Pine Spring (Transect 3):** Cattle and horse sign evident of majority of species use. About half of grasses present still have seed head attached. Grasses are more prevalent as you progress up the slope.

**Lone Pine Spring (05134-02-01):** Mostly recent cattle sign, with some elk sign present. The transect is in the wash South of the main road that goes west to arrowhead pass. Needle and thread grass is almost absent throughout the area. Majority of grass present is Western Wheatgrass with 95% being grazed off with an un-grazed height of 10”.

**i. 2017 Utilization**

TRANSECT # NUMBER	PASTURE	KEY SPECIES UTILIZATION							
		Indian Ricegrass/Needle and Threadgrass	Blue Gramma	Crested Wheatgrass/Russian Wildrye	Western Wheatgrass	Crested Wheatgrass	Russian Wildrye	Needle And Thread Grass	Bottlebrush Squirreltail Grass
Transect #1	Four Mile Wash	----	38%	59%	44%	----	----	----	----
Transect #2	Four Mile Wash	----	----	----	24%	47%	67%	----	----
Transect #3	Four Mile Wash	----	----	----	23%	52%	66%	----	----
Transect 4	Four Mile Wash	----	----	----	----	65%	67%	----	----
Transect 5	Mountain Spring Wash	----	----	----	42%	----	----	----	----
Transect 6	Mountain Spring Wash	45%	----	----	----	----	----	----	----
Transect 7	Mountain Spring Wash	----	---	----	---	----	----	31%	15%
Transect 8	Sawmill Rustler	----	----	----	----	39%	----	----	----
Transect 9	Sawmill Rustler	----	----	----	----	54%	----	----	----

**\*Utilization was collected post-turnout of livestock. Utilization was recorded to reflect on use after livestock use for 2017.**

**Lone Pine Spring (Transect 1):** Old and fresh horse sign is abundant, and the range is starting to show the constant grazing pressure from the Broken Ridge fire re-seed, also cattle and elk sign. Overall vigor of key species is poor and can be seen by little seed production. Horses will be gathered in this area 2018.

**Lone Pine Spring (Transect 2):** Recent and old horse sign, still part of the Broken Ridge fire re-seed. I counted six wild horses near transect line. Old cattle sign from earlier use. Good diversity

of perennial grass species but overall show poor vigor and little seed production from yearlong use from wild horses.

**Lone Pine Spring (Transect 3):** Recent and old horse sign, some old cattle sign. Key species show fair vigor and has better seed head production. However, horse pressure is still affecting the integrity of the fire re-seed. Grasses are having a hard time recovering especially in dry years.

**Lone Pine Spring (Transect 4):** many recent and old horse signs with some cattle sign. Still part of Broken Ridge fire re-seed. Overall grasses show poor vigor and seed production and will struggle to recover. I counted four wild horses near transect.

**Lone Pine Spring (Transect 5):** Some old horse sign appears to be mostly cattle use. Most of the forage and pattern of cattle is to stay in the wash running along the main road. Overall health and vigor of the key species is poor. Photo from utilization cage shows the potential for the area. (See photo).

**Lone Pine Spring (Transect 6):** Mostly cattle use, some horse sign. Transect runs on the west side of the Pine Valley Road. Most of this pasture has been converted to pinyon and juniper with limited areas that have available forage. So, the same area repeatedly is utilized. Key species show poor vigor and seed production.

**Lone Pine Spring (Transect 7):** Pinyon and Juniper has limited the amount of forage available in this pasture. Forage is limited to the open wash. This transect was part of a brush harrow treatment. A livestock trough is found along the two-track road going west. Elk, horse and rabbit sign is present. Key species are now limited within the canopy of the sagebrush, with some minimal use on the brush. Overall vigor is fair, lots of recruitment from sagebrush.

**Lone Pine Spring (Transect 8):** Part of old crested wheatgrass seeding. Sagebrush has moved in heavily and is another area that's get pressured by year-round horse use which has resulted in the limited perennial grasses to be found only in the canopy of the shrubs. Any exposed grass is grazed heavily. Overall vigor of key species is poor, with low reproduction capability.

**Lone Pine Spring (Transect 9):** Part of an old, crested seeding, fire and past utilization has converted some of the shrub component to rabbit brush. Constant horse use has limited the perennial grasses, showing poor vigor with low reproductive capability, except for caged grasses.

**j. 2018 Utilization**

TRANSECT # NUMBER	PASTURE	KEY SPECIES UTILIZATION				
		Western Wheatgrass	Bluebunch Wheatgrass	Crested Wheatgrass	Russian Wildrye	Needle and Threadgrass
Transect #1	Four Mile	31%	----	55%	57%	49%
Transect #2	Four Mile	----	49%	57%	62%	----
Transect #3	Four Mile	----	46%	56%	55%	----
Transect #4	Four Mile	17%	33%	46%	45%	----
Transect #5	Four Mile	----	----	57%	51%	41%
Transect #6	Mtn. Spring Wash	51%	----	----	----	----
Transect #7	Mtn. Spring Wash	59%	----	58%	----	----
Transect #8	Mtn. Spring Wash	----	----	28%	----	----
Transect #9	Sawmill Rustler	----	----	65%	----	----
Transect #10	Sawmill Rustler	----	----	45%	----	----

**Lone Pine Spring (Transect 1):** Was last out 7/10. Was discussed to start moving cows into the Mountain Spring Wash Pasture based on utilization levels. Appears to be all old horse and cattle sign. Ponds near the transect have been breached by equipment recently.

**Lone Pine Spring (Transect 2):** Looks like more recent cattle sign along the transect. Has been utilized a lot more since utilization was done in July. Currently no cow or have yet to count any wild horses.

**Lone Pine Spring (Transect 3):** Looks like old with some more recent cattle sign. A lot more use since the last visit (see other report). They removed around 75 wild horses earlier this fall, cannot remember exact numbers.

**Lone Pine Spring (Transect 4):** I counted four wild horses on the hill northeast of the transect. All old cattle sign, less cows use this area due to distance from water.

**Lone Pine Spring (Transect 5):** Looks like all old cattle sign. Currently no cattle our in this pasture, no wild horse counted in this area of fire, usually can spot a few groups on burned hillsides. Elk sign was present in the area.

**Lone Pine Spring (Transect 6):** Cattle mainly use the sagebrush washes in this pasture, mainly because it is the only area with available forage, the areas have had some past treatment work and are only areas not completely encroached by pinyon and juniper. No recent cattle sign but several recent wild horse tracks in the mud.

**Lone Pine Spring (Transect 7):** Cattle mostly use the bottom of wash near the main road, area was seeded at one time, some recent wild horse sign with old cattle sign. Currently no cows in the pasture.

**Lone Pine Spring (Transect 8):** This area was part of a brush harrow treatment completed by fuels in 2007. Has been grazed out, remaining grasses only exist in the canopy of the shrubs. This is a small area surrounded by rolling hills on dense pinyon and juniper with little area so utilization would have been concentrated.

**Lone Pine Spring (Transect 9):** Nine wild horses near the transect. This was part of a chaining, not sure the year, but older. A lot of old and fresh wild horse sign with little old cattle sign. Grasses are sparse with only a few left in interspaces. This area sees constant pressure from wild horses. Six more wild horses up the road from this transect.

**Lone Pine Spring (Transect 10):** Still within part of the old chaining, this area would be just Pinyon Pine and Utah Juniper if not for the chaining that took place, this area has seen constant wild horse use, evident by the amount of old and recent horse sign. Some old cattle sign.

#### k. 2019 Utilization

TRANSECT # NUMBER	PASTURE	KEY SPECIES UTILIZATION					
		Western Wheatgrass	Bluebunch Wheatgrass	Crested Wheatgrass	Russian Wildrye	Needle and Threadgrass	Intermediate Wheatgrass
Transect #1	Four Mile	----	----	21%	----	----	14%
Transect #2	Four Mile	----	----	24%	----	----	11%
Transect #3	Four Mile	----	----	24%	22%	----	32%
Transect #4	Four Mile	----	----	22%	51%	----	27%
Transect #5	Four Mile	----	----	24%	40%	----	22%
Transect #6	Mountain Spring Wash	39%	----	----	----	----	----
Transect #7	Sawmill/Rustler	----	----	13%	----	----	----
Transect #8	Sawmill/Rustler	----	----	35%	----	----	----
Transect #9	Sawmill/Rustler	----	----	31%	----	----	----

**Lone Pine Spring (Transect 1):** Currently no cows in this part of the pasture. Spoke with Matt Wood, he told me they have recently moved cows out of the 4-mile pasture. A majority of the Crested Wheatgrass, and Intermediate Wheatgrass has not been grazed and are setting seed. Good growth from spring moisture but note it was an extremely dry summer.

**Lone Pine Spring (Transect 2):** Some old but no recent horse sign along the transect. Some cow sign present; however, it is minimal. This transect would be the furthest distance between waters on this side of broken ridge. The majority of perennial grasses are setting seed. Still have not seen any cattle or wild horses.

**Lone Pine Spring (Transect 3):** The majority of the use in in the bottom near the road, as you get up on the hill there is a lot less use. Some more recent wild horse and cattle manure are present. Four head of cattle counted at the water north of the transect. Still have not seen a horse.

**Lone Pine Spring (Transect 4):** A lot more recent wild horse sign than on any of the other transects, also recent cattle manure. Bluebunch Wheatgrass and Russian Wildrye seed production is limited but a lot of Intermediate Wheatgrass and Crested Wheatgrass has produced and setting seed.

**Lone Pine Spring (Transect 5):** 13 wild horses counted near the transect. Majority of recent manure along the transect was from wild horses and some cattle. No cows currently in this part of the pasture. Bluebunch Wheatgrass and Indian Ricegrass are present but extremely limited. A good amount of Crested Wheatgrass and Intermediate Wheatgrass are setting seed.

**Lone Pine Spring (Transect 6):** This transect represent s the wash along the Arrowhead pass road. Some open areas along the wash have a monoculture of Western Wheatgrass. With the good spring moisture, Western Wheatgrass was taller with the majority matured with seed heads. Cattle used earlier this fall. Heavy utilization is partly from limited feed in the majority of the pasture consisting of on PJ with limited understory. Old cattle and horse manure also counted four wild horses across the road from the transect.

**Lone Pine Spring (Transect 7):** Old and recent horse manure along the transect, no cow manure. The perennial grass consists of a monoculture of Crested Wheatgrass from an old treatment, the majority is now restricted to the canopy of the Wyoming Big Sagebrush and is getting little use. Three wild horses counted near the transect. No cows in this part of the pasture.

**Lone Pine Spring (Transect 8):** This transect is located at a key area. I moved the cage but appears it has not been moved for several years, so not the best to gauge use at this site. Very little old cattle sign, with a good amount of old horse manure. Crested Wheatgrass is the only perennial grass and is not very prevalent and restricted to the canopy of the brush.

**Lone Pine Spring (Transect 9):** Cattle use this area in the fall, currently no cows, not a lot of old cattle sign but, a good amount of old, and recent horse sign is present. The only perennial grass is Crested Wheatgrass, and it is becoming restricted to the canopy of the brush.

## I. 2020 Utilization

TRANSECT # NUMBER	PASTURE	KEY SPECIES UTILIZATION							
		Bluebunch Wheatgrass	Bottlebrush Squirreltail Grass	Crested Wheatgrass	Russian Wildrye	Needle and Threadgrass/Indian Ricegrass	Intermediate Wheatgrass	Western Wheatgrass	Smooth Brome Grass
Transect #1	Sawmill /Rustler	----	----	37%	----	----	----	----	----
Transect #2	Sawmill/ Rustler	----	----	25%	----	----	----	----	35%
Transect #3	Sawmill/ Rustler	----	----	22%	----	----	----	----	----
Transect #4	Sawmill/ Rustler	----	----	43%	----	----	----	----	----
Transect #5 (KA)	Four Mile	----	----	51%	----	----	41%	----	----
Transect #6	Four Mile	----	----	46%	----	-----	34%	-----	----
Transect #7	Four Mile	----	----	45%	41%	----	52%	----	----
Transect #8	Four Mile	49%	----	41%	55%	----	44%	----	----
Transect #9	Four Mile	----	----	60%	73%	----	56%	----	----

**Lone Pine Spring (Transect 1):** Minimal cattle sign, but horse manure and tracks are abundant. I counted 12 wild horses, just while walking the transect. Utilization reflects moderate-heavily grazed grasses in the interspaces while the other grasses are restricted to the canopy of the shrubs making them unavailable to graze. The bad drought year has resulted in poor vigor and seed set.

**Lone Pine Spring (Transect 2):** No sign that cattle have used this portion of the pasture, this portion of the pasture consists of a small burn from several years ago. Perennial grasses are almost absent. It appears to have been seeded but not chained. Wild horse tracks and manure is abundant, some elk tracks and scat. The site consists of sagebrush & rabbitbrush with a dense stand of cheatgrass. Some patches of Palmers penstemon have persisted.

**Lone Pine Spring (Transect 3):** This transect was done between the road and fence. Crested Wheatgrass is more prevalent then within the same seeding at T1. Less wild horse sign and no cattle sign from summer/fall use. Visually estimate that 60% of Crested Wheatgrass has seed heads.

**Lone Pine Spring (Transect 4):** Unlike the last transect that was an old Crested Wheatgrass seeding this was a burn that appears to be seeded but not chained in, the trees are still standing. No sign of summer/fall cattle use. Recent horse manure and tracks were present. Cheatgrass and ERNA10 are invasive. Overall poor vigor and seed production.

**Lone Pine Spring (Transect 5):** Cattle have used the pasture late summer/Fall. Also, recent wild horse manure along the transect. Crested Wheatgrass seed set is fair.



**Lone Pine Spring (Transect 6):** Counted 7 wild horses near the transect. I would estimate 20-30% of Crested Wheatgrass has set seed same with Intermediate Wheatgrass. There has been little to no summer or fall moisture.

**Lone Pine Spring (Transect 7):** Similar to the previous transects.

**Lone Pine Spring (Transect 8):** Both cattle and wild horse use.

**Lone Pine Spring (Transect 9):** Counted 3 wild horses near the transect. Less use as you start up the slope.

TRANSECT # NUMBER	PASTURE	KEY SPECIES UTILIZATION							
		Bluebunch Wheatgrass	Bottlebrush Squirreltail Grass	Crested Wheatgrass	Russian Wildrye	Needle and Threadgrass/Indian Ricegrass	Intermediate Wheatgrass	Western Wheatgrass	Smooth Brome Grass
Transect #1	Sawmill /Rustler	----	----	37%	----	----	----	----	----
Transect #2	Sawmill/ Rustler	----	----	25%	----	----	----	----	35%
Transect #3	Sawmill/ Rustler	----	----	22%	----	----	----	----	----
Transect #4	Sawmill/ Rustler	----	----	43%	----	----	----	----	----
Transect #5 (KA)	Four Mile	----	----	51%	----	----	41%	----	----
Transect #6	Four Mile	----	----	46%	----	----	34%	----	----
Transect #7	Four Mile	----	----	45%	41%	----	52%	----	----
Transect #8	Four Mile	49%	----	41%	55%	----	44%	----	----
Transect #9	Four Mile	----	----	60%	73%	----	56%	----	----

**Lone Pine Spring (Transect 1):** Minimal cattle sign, but horse manure and tracks are abundant. I counted 12 wild horses, just while walking the transect. Utilization reflects moderate-heavily grazed grasses in the interspaces while the other grasses are restricted to the canopy of the shrubs making them unavailable to graze. The bad drought year has resulted in poor vigor and seed set.

**Lone Pine Spring (Transect 2):** No sign that cattle have used this portion of the pasture, This portion of the pasture consists of a small burn from several years ago. Perennial grasses are almost absent. It appears to have been seeded but not chained. Wild horse tracks and manure is abundant, some elk tracks and scat. The site consists of sagebrush & rabbitbrush with a dense stand of cheatgrass. Some patches of Palmers penstemon have persisted.

**Lone Pine Spring (Transect 3):** This transect was done between the road and fence. Crested Wheatgrass is more prevalent then within the same seeding at T1. Less horse sign and no cattle sign from summer/fall use. Visually estimate that 60% of Crested Wheatgrass has seed heads.

**Lone Pine Spring (Transect 4):** Unlike the last transect that was an old Crested Wheatgrass seeding this was a burn that appears to be seeded but not chained in, the trees are still standing. No sign of summer/fall cattle use. Recent horse manure and tracks were present. Cheatgrass and ERNA10 are invasive. Overall poor vigor and seed production.

**Lone Pine Spring (Transect 5):** Cattle have used the pasture late summer/Fall. Also, recent horse manure along the transect. Crested Wheatgrass seed set is fair.

**Lone Pine Spring (Transect 6):** Counted 7 wild horses near the transect. I would estimate 20-30% of Crested Wheatgrass has set seed same with THIIN6. There has been little to no summer or fall moisture.

**Lone Pine Spring (Transect 7):** Similar to the previous transects.

**Lone Pine Spring (Transect 8):** Both cattle and wild horse use.

**Lone Pine Spring (Transect 9):** Counted 3 wild horses near the transect. Less use as you start up the slope.

#### **m. 2021 Utilization**

TRANSECT # NUMBER	PASTURE	KEY SPECIES UTILIZATION							
		Bluebunch Wheatgrass	Galleta Grass	Crested Wheatgrass	Russian Wildrye	Indian Ricegrass	Intermediate Wheatgrass	Western Wheatgrass	Smooth Brome Grass
Transect #1	Four Mile	----	----	44%	----	----	----	----	----
Transect #2	Four Mile	----	----	38%	----	----	44%	----	----
Transect #3	Four Mile	----	54%	47%	55%	----	40%	----	----
Transect #4	Four Mile	58%	----	44%	67%	----	37%	----	----
Transect #5	Four Mile	----	----	49%	63%	----	44%	----	----

**Summary:** All cows have been moved out of the Four Mile pasture, with a count of 10 total wild horses while making the loop around Broken Ridge. Cows were moved off the second weekend of October. A lot of the perennial grasses are still green from the July and August Monsoonal rains.

## I. Lund Allotment

The Lund Allotment consists of the following acreage by land ownership status:

ALLOTMENT	PUBLIC ACRES	STATE ACRES	PRIVATE ACRES
Lund	35,694	5,709	12,571

The following tables illustrate the grazing management system within the Lund Allotment.

ALLOTMENT	NUMBER OF LIVESTOCK	KIND OF LIVESTOCK	SEASON OF USE	PERCENT PUBLIC LAND	AUMS
Lund	260	Cattle	03/01 – 02/28	67	2,095

PASTURE	KIND OF LIVESTOCK	SEASON OF USE	
		YEAR 1	YEAR 2
Lower, Middle & Upper Four-Mile	Cattle	03/01 – 08/31	09/01 – 02/28
Pasture 5 & Johnson	Cattle	09/01 – 02/28	03/01 – 08/31
Ray Lyman	Cattle	10/01 – 02/28	

### Actual Use Data

YEAR/ALLOTMENT	LUND
2020	1287
2019	1505*
2018	755
2017	1505*
2016	1448
2015	1398*
2014	1435*
2013	908
2012	1,133
2011	1,399
2010	932
Average	1,246

\*Note actual use was taken from grazing bills, actual use reports were not available.

#### a. 2012/2013 Utilization

Utilization data was collected within the Lund Allotment on May 21, 2013 following the 2013 grazing year. The following table illustrates the livestock use that occurred in the 2013 grazing year.

Transect Number	Pasture	KEY SPECIES UTILIZATION		
		Indian Ricegrass	Galleta Grass	Needle and Thread
05135-03-1	Ray Lyman	28%	19%	20%
05135-03-3	Ray Lyman	-----	34%	31%
Transect 1	Ray Lyman	0%	0%	0%

**05135-03-1 (Ray Lyman Pasture):** There is good overall green up and the average height is 8-24 inches tall and needle and thread is primarily the tallest. Cheatgrass is very abundant and is the dominant grass on site. The dominant desirable grass species is galleta. Plant species composition is fair and site shows signs of use by cattle, wild horses, and Antelope. Five wild horses were seen within the allotment.

**05135-03-3 (Ray Lyman Pasture):** Cheatgrass is very abundant and dominates the site. Indian Ricegrass, needle and thread, and galleta are the perennial grasses on site with Indian Ricegrass and needle and thread starting to head out. The average height for Indian Ricegrass and needle and thread is 12-20 inches tall with galleta grass being 4-6 inches tall. The percentage of perennials is relatively low. Grass hoppers are very abundant and area shows use by cattle, wild horses, and antelope. This site is within ½ mile of pond.

**Transect 1 (Ray Lyman Pasture):** Plant health, plant vigor, community composition, and diversity were good. Juniper encroachment is evident on the site. There appeared to be no grazing at this transect; however, old horse and cattle scat was seen.

#### b. 2013/2014 Utilization

Utilization data was collected within the Lund Allotment on April 9, 2014 following the 2013 grazing year. The following table illustrates the livestock use that occurred in the 2013 grazing year.

Transect Number	Pasture	KEY SPECIES UTILIZATION			
		Indian Ricegrass	Galleta Grass	Crested Wheatgrass	Forage Kochia
Transect 1 KA	Middle Four Mile	-----	28%	69%	-----
Transect 2	Upper Four Mile	63%	28%	61%	-----
Transect 3 05135-01-10	Upper Four Mile	19%	11%	32%	-----
Transect 4	Upper Four Mile	47%	-----	51%	34%
Transect 5 05135-03-03	Ray Lyman	-----	21%	-----	-----

**Transect 1 (Lower Four Mile Pasture):** The site was in Black Sagebrush with grasses and limited forbs. No grazing was observed on the black sage. Crested wheatgrass and Galleta Grass were the main grasses with galleta being the most dominate. Galleta Grass received fairly light grazing, whereas, crested wheatgrass has been grazed fairly heavy. The green up of crested wheatgrass in 6 inches and almost all were grazed. No cattle were grazed within the pasture and the use appears to be primarily by wild horses. Horse tracks are throughout the entire site and 2 head of wild horses were seen within the pasture.

**Transect 2 (Upper Four Mile Pasture):** This site was in an old seeding. Purple three awn, Indian Ricegrass, and galleta are the primary grasses with galleta grass being the most common. Juniper expansion is in phase 1. No cattle have been within the pasture and use is primarily by wild horses and elk. Wild horse tracks are very abundant throughout the site. 8 head of wild horses were seen in the pasture.

**Transect 3 (Upper Four Mile Pasture):** There is good plant species diversity of grasses, forbs and shrubs. The primary grasses are galleta, Indian Ricegrass, needle and thread and crested wheatgrass with galleta grass being the most abundant. The site shows slight signs of use and no track at on site. There is 3-6 inches of regrowth on the grasses.

**Transect 4 (Upper Four Mile Pasture)** This site is in the Broken Ridge 2006 Emergency stabilization and rehabilitation area. There is a good plant species diversity, health and vigor. The Bitterbrush and palmer penstemon received light grazing. Grasses had an average of 3-6 inches of regrowth and show very slight use of that regrowth.

**Transect 5 (5135-03-3) (Ray Lyman Pasture):** Cheatgrass is abundant and dominates the site, but has had very little growth this spring due to the lack of moisture. Galleta Grass is the primary perennial grass. New growth of grasses is 1-2 inches. Cattle are currently grazing in the pasture. There is also 9 head of wild horses within the pasture.

#### c. 2014 Utilization

##### Utilization Transect results are as follows:

Transect Number	Pasture	KEY SPECIES UTILIZATION					
		Indian Ricegrass	Galleta Grass	Crested Wheatgrass	Sand Dropseed	Forage Kochia	Winterfat
Transect 1	Ray Lyman	-----	16%	-----	24%	-----	33%
05135-03-03	Ray Lyman	-----	24%	-----	30%	-----	-----

**Transect 1 (Ray Lyman Pasture):** Galleta Grass and Sand Dropseed were the dominant perennial grass species present and both of them had good health and vigor. Winterfat also had good health, vigor and growth. Cattle are currently in this pasture.

**05135-03-03 (Ray Lyman Pasture):** Galleta Grass, Sand Dropseed and purple three awn are the primary grasses present onsite with galleta grass being the most abundant grass species present. All perennial grasses have good health and vigor.

#### d. 2016 Utilization

##### Utilization Transect results are as follows:

Transect Number	Pasture	KEY SPECIES UTILIZATION					
		Indian Ricegrass/Needle and Threadgrass	Galleta Grass	Crested Wheatgrass	Sand Dropseed	Intermediate Wheatgrass/Bluebunch Wheatgrass	Winterfat
05135-03-03	Ray Lyman	-----	16%	-----	22%	-----	----
Transect 1	Ray Lyman	31%	17%	-----	----	-----	20%
05135-02-02	Johnson	----	25%	----	30%	----	-----
05135-07-09	1B Lower Four Mile	62%	-----	----	----	----	Not Enough Samples
05135-01-10	1A Upper Four Mile	55%	36%	-----	----	----	-----
Transect 2	1A Upper Four Mile	----	----	64%	----	50%	----
Transect 3	1A Upper Four Mile	44%	----	----	----	----	----
Transect 4	1C Middle Four Mile	Not Enough Samples	----	26%	----	----	----
05135-07-06	1B Lower Four Mile	Not Enough Samples	----	35%	----	----	----

**05135-03-03 (Ray Lyman Pasture):** Older cattle sign, fresh horse sign is evident. Site is dominated by cheatgrass. The overall health and vigor of Sand Dropseed and galleta grass is fair. Un-grazed height of Sand Dropseed averages 6-10”.

**Transect 1 (Ray Lyman Pasture):** Old horse and cattle sign present. Patches of Nevada joint fir are scattered throughout the area and have been grazed moderately to heavy showing poor health and vigor. Indian Ricegrass and needle and thread grass shows good overall health and vigor. Un-grazed height of Indian Ricegrass and needle and thread grass is 10-15”.

**05135-02-02 (Johnson):** Old cattle sign, area consists of a dominant stand of galleta grass with Sand Dropseed scattered. Indian Ricegrass is present but almost absent due to being the desirable species being grazed in few amounts. The overall health and vigor of perennial vegetation is fair. Un-grazed heights include: galleta 5-8” and Sand Dropseed 8-12”.

**05135-07-09 (1B Lower Four Mile):** Old and recent cattle and horse sign, has been a herd of 16+ wild horses continually using this pasture reflected by heavy use level. Invasive species such as broom snakeweed and rabbitbrush are becoming more prevalent with repeated heavy grazing. Indian Ricegrass and needle and thread grass vigor are poor, health is good. With an un-grazed height of 10-14”, 64 head of cattle were on stock pond and 2 antelope, and 16 wild horses were counted approximate to the area.

**05135-01-10 (1A Upper Four Mile):** Wild horse and cattle sign is prevalent, showing continued grazing pressure on perennial grasses present. Area consists of a moderate number of invasive

shrubs and with encroaching Pinyon Pine and Utah Juniper, mostly young trees. Vigor of perennial grass is poor, health is good. Un-grazed height of Indian Ricegrass is 10-12”.

**Transect 2 (1A Upper Four Mile):** Transect is within portion of the broken ridge fire. Moderate amounts of horse sign present indicating majority of species use. Some old cattle sign. The overall health and vigor of perennial grasses is good, however; grasses grazed have been utilized heavily which will impact residual growth. Un-grazed heights include: Crested Wheatgrass 18-21” and Intermediate Wheatgrass/Blue Bunch Wheatgrass 18-23”.

**Transect 3 (1A Upper Four Mile):** The majority of perennial grass being utilized is Indian Ricegrass with some bottlebrush squirrel tail mixed in. Shrubs are dominant, along with encroaching pinyon and juniper which are limiting perennial grass production. Allowing for concentrated grazing on the perennial grasses that are present, the overall health and vigor of key species is fair. Un-grazed heights include: Indian rice grass 5-8”.

**Transect 4 (1C Middle Four Mile):** Horse sign was present, majority of perennial grasses consist of crested wheatgrass, which has become caged within the Wyoming Big Sagebrush due to repeated historic grazing pressure utilizing grasses within the interspaces. The overall health and vigor of key species is fair. Un-grazed heights include: crested wheatgrass 12-16”.

**05135-07-09 (1B Lower Four Mile):** Old and recent cattle sign, few cows near transect line, heavy amounts of invasive broomsnake weed are present near the main road, but thins out as you move outward. Crested wheatgrass is the dominant perennial grass with few scattered Indian Ricegrass and needle and thread bunch grasses. Overall perennial grasses show good health and vigor. Some horse sign was apparent. Un-grazed heights include: 10-15”.

## J. Modena Canyon Allotment

The Modena Canyon Allotment consists of the following acreage by land ownership status:

Allotment	Public Acres	Private Acres	State Acres
Modena Canyon	23,603	1,199	2,385

The following tables illustrate the grazing management system within the Modena Canyon Allotment.

PERMITTEE	CLASS	NUMBER	GRAZING BEGIN	GRAZING END	AUMS
Leon & Bradley Bowler	Cattle	40	7/1	9/30	121

		7/1	8/15	9/30
Year 1	Modena Canyon	Grazed (53 BLM AUMs)		
Year 2			Grazed (39 BLM AUMs)	

## Actual Use Data

YEAR/ALLOTMENT	MODENA CANYON
2020	45
2019	120
2018	93
2017	54
2016	101
2015	194
2014	75
2013	139
2012	242
2011	Non-Use
2010	245
2009	Non-Use
2008	Non-Use
<b>Average</b>	<b>100</b>

### a. 2012 Utilization

Utilization data was collected within the Modena Canyon Allotment on October 4, 2012, following the 2012 grazing year. The following table illustrates the livestock use that occurred in the 2012 grazing year.

Transect Number	KEY SPECIES UTILIZATION
	Indian Ricegrass
05138-01-03	29%

**05138-01-03:** Indian Ricegrass comprises the Key Species at this site. Other species present include: Needle-and-thread, crested wheatgrass, Black Sagebrush, Sandberg bluegrass, Green Rabbitbrush, phlox, and Blue Grama. Perennial grasses show fair vigor on the site but is lacking overall. The site should have more perennial grasses in the interspaces between the shrubs. This site has received light grazing pressure. Cattle sign was present, but not abundant on the site.

### b. 2015 Utilization

TRANSECT # NUMBER	PASTURE	KEY SPECIES UTILIZATION
		Needle and Threadgrass/Indian Ricegrass
05138-01-03	Modena Canyon	55%

**Modena Canyon (05138-01-03):** Sign of severe use on some perennial grasses mainly needle and thread and Indian Ricegrass that have completely died off. But overall utilization was moderate. Key species that are caged within the Wyoming Big Sagebrush show good health, vigor and seed production, however; grasses within interspaces show poor overall health, vigor and seed production. Crested wheatgrass was present on site but is scattered. Cattle, horse and elk sign are all present within area which appears to be an old treatment. Area definitely suffers from multiple



species use. Broom snakeweed and cheatgrass are present on site in excessive amounts and indicate disturbance.

**c. 2018 Utilization**

TRANSECT # NUMBER	PASTURE	KEY SPECIES UTILIZATION
		POSE 37%
05138-01-03	Modena Canyon	

**Modena Canyon (05138-01-03):** This is one of the only areas accessible with a pickup on this allotment. Other than portions of the paradise fire burn the majority of the allotment is steep country with dense stands of pinyon and juniper. Old cattle and horse sign is visible with fresh sign from elk and deer. Overall health and vigor of perennial grasses is poor, with little seed production. It was a dry summer and fall in portions of Hamlin Valley.

**K. Mountain Spring Allotment**

The Mountain Spring Allotment consists of the following acres:

ALLOTMENT	PUBLIC ACRES	STATE ACRES	PRIVATE ACRES
Mountain Spring	24,999	2,302	1,491

The following table illustrates the grazing management system within the Lone Pine Spring Allotment.

ALLOTMENT	NUMBER LIVESTOCK	LIVESTOCK KIND	GRAZING BEGIN	GRAZING END	% PL	AUMS
Mountain Spring	100	Cattle	06/01	11/30	93	560

Year	June-August	September-November
1	Mountain Spring Pasture	Bible Spring Pasture
2	Bible Spring Pasture	Mountain Spring Pasture

## Actual Use Data

YEAR/ALLOTMENT	MOUNTAIN SPRING
2021	264
2020	281
2019	415
2018	231
2017	*554
2016	*554
2015	356
2014	356
2013	343
2012	*559
2011	433
2010	446
2009	308
<b>Average</b>	<b>392</b>

\*Note actual use was taken from grazing bills, actual use reports were not available.

### a. 2011 Utilization

Utilization data was collected within the Mountain Spring Allotment on September 16, 2011 following the 2011 grazing year. The following table illustrates the livestock use that occurred in the 2011 grazing year.

TRANSECT NUMBER	KEY SPECIES UTILIZATION			
	Indian ricegrass	Intermediate wheatgrass	Crested wheatgrass	Galletta grass
Bible Spring	---	--	80%	---
Mountain Spring	19%	13%	---	20%

**Bible Spring (.2 miles on road to typhoid):** This site was dominated by Crested Wheatgrass with rabbitbrush, Juniper, lupine, cowboy poppy, and cheatgrass. Wild horse sign present, old and new cow sign present. The area has been utilized hard in past and currently by wild horses. Very poor vigor lots of bare ground throughout grass and shrub interspaces. PJ encroaching the seeding. Rabbitbrush and cheatgrass abundant. There was no cage to get a measurement of un-grazed grass. Very poor vigor as mentioned above possibly hit hard by wild horses and never was able to grow much.

**Mountain Spring:** This site is dominated by Indian ricegrass, Intermediate wheatgrass and curly grass with some bottlebrush squirrel tail, globemallow, sagebrush juniper, cheatgrass, bluegrass, mustard, and prickly pear. Horse sign present within the key area.

### b. 2012 Utilization

Utilization data was collected within the Mountain Spring Allotment on December 7, 2012, following the 2012 grazing year. The following table illustrates the livestock use that occurred in the 2012 grazing year.

TRANSECT # NUMBER	PASTURE	KEY SPECIES UTILIZATION			
		Indian ricegrass	Intermediate wheatgrass	Crested wheatgrass	Galleta grass
05141-01-2	Bible Spring	-----	31%	55%	27%
05141-02-6	Mountain Spring	27%	-----	-----	8%

**Bible Spring (05141-01-2):** The dominant grass species on site is Galleta grass. Plant health and vigor is fair, and plants lack numerous seed heads. There are areas where disturbance is evident with an abundance of invasive species such as rabbitbrush and cheatgrass. Utah Juniper encroachment is evident on site. The average grass height for the site was 3-6" inches. There are signs of livestock, deer, elk, and wild horse use. Residual cover is limited.

**Mountain Spring (05141-02-06):** This transect was completed near the trend study site. There was poor plant community composition with large interspaces between plants. The dominant grass species was Indian ricegrass. The average height for un-grazed Indian ricegrass was 6-8" inches. Plant health and vigor was good with a fair amount of seed set. Elk and wild horse use was apparent on site.

### c. 2013 Utilization

TRANSECT # NUMBER	PASTURE	KEY SPECIES UTILIZATION		
		Indian ricegrass	Crested Wheatgrass	Galleta Grass
Transect 1	Mountain Spring	63%	-----	43%
Transect 2	Mountain Spring	63%	-----	66%
Transect 3 05141-01-2	Bible Spring	70%	77%	67%
Transect 4	Bible Spring	-----	70%	70%

**Transect 1 (Mountain Spring Pasture):** Galleta Grass and Indian ricegrass are the dominate grasses. The overall site is dominated by sagebrush and juniper with a good number of grasses in the understory. Cattle and wild horse use is apparent.

**Transect 2 (Mountain Spring Pasture):** Wyoming big sagebrush is the dominate species with a limited understory. Galleta grass is the dominate perennial grass and appears to be grazed relatively short. Both cattle and wild horse use is apparent.

**Transect 3 (Bible Springs Pasture):** All grasses are grazed heavy. Galleta grass is the dominate grass. Rabbitbrush and sagebrush are increasing on the site with seedlings throughout the entire

site. Water flow pattern are prominent. Wild horse manure and tracks are present throughout the area. Cattle use is noted as well.

**Transect 4 (Bible Springs Pasture):** Grasses show heavy use throughout the site. Crested wheatgrass and galleta are the dominate perennial grasses. Cheatgrass and rabbitbrush are abundant. Wild horse and cattle use is apparent.

**d. 2015 Utilization Pre-Turnout**

TRANSECT # NUMBER	PASTURE	KEY SPECIES UTILIZATION				
		Indian Ricegrass	Needle and Threadgrass	Crested Wheatgrass	Galleta Grass	Bottlebrush Squirreltail Grass
05141-01-02	Bible Spring	17%		Not Enough Samples	6.5%	----
Transect #1	Mountain Spring	No Use				----
05141-02-06	Mountain Spring	18%		-----	----	4%

**\*Utilization was collected pre-turnout of livestock. Utilization was recorded on level of use on new growth (April-May 25<sup>th</sup>).**

**Mountain Spring (05141-01-02):** Both elk and horse sign are recent and evident of species use. The perennial grasses at this key area are limited even with the good winter and spring moisture, seed set is limited. Grasses present show fair health and vigor with limited seed heads. Wyoming Big Sagebrush is the dominant vegetation with encroaching pinion/juniper. Crested wheatgrass is caged within the canopy of the shrubs. The un-grazed Indian ricegrass and needle and thread measured 8-10 inches.

**Mountain Spring (Transect #1):** No horse sign evident, Cattle sign is from previous grazing season. Perennial grasses consist of bottle brush squirrel tail and galleta grass showing good health and vigor. Wyoming Big Sagebrush is the dominant vegetative species.

**Mountain Spring (Transect #2):** Light horse sign present but use by the wild horses in the area have been focused on the Indian rice grass and needle and thread grass thinly scattered throughout the Wyoming Big Sagebrush. Currently the only grasses that have went to seed are growing within the canopy and protection of the shrubs present. This key area is located 2-3 miles west of transect one and does not show up as a KA on are allotment maps. (Have Kent update). More grass diversity is present then in transect 1. The un-grazed height of Indian ricegrass and Needle-and-Thread are 10-15 inches.

**Note:** Overall the allotment consists of steppe slopes with the primary vegetation being pinyon/juniper or Wyoming big sagebrush with Pinyon and Juniper encroaching. Limited perennial grasses exist in majority of areas. Utilization completed in sites that looked most productive, and livestock could access.

**e. 2016 Utilization**

TRANSECT # NUMBER	PASTURE	KEY SPECIES UTILIZATION		
		Galleta Grass	Bottlebrush Squirreltail Grass	Indian Ricegrass/Needle and Thread Grass
Transect #1	Mountain Spring	34%	Not Enough Samples	Not Enough Samples

**Mountain Spring (Transect 1):** Old cattle sign, from early summer turn out date. Galleta grass is the most prevalent perennial grass, Indian ricegrass is almost absent and being picked out.

**f. 2017 Utilization**

TRANSECT # NUMBER	PASTURE	KEY SPECIES UTILIZATION					
		Galleta Grass	Bottlebrush Squirrealtail Grass	Indian Ricegrass	Needle and Threadgrass	Sand Dropseed	Purple Three-Awn
Transect 1	Mountain Spring	34%	26%	45%			
Transect 2	Mountain Spring	29%	9%	Not enough samples			
Transect 3	Bible Spring	Not enough samples					
Transect 4	Bible Spring	34%	----	----	68%	53%	20%

**Mountain Spring (Transect 1):** Old cattle and wild horse sign, more sign of wild horse use than cattle. Overall, perennial grasses are limited and show poor health and vigor with very few seed heads being produced by key species. This is a result of constant use from wild horses and pinyon and juniper encroachment throughout the allotment.

**Mountain Spring (Transect 2):** Old cattle sign with some old wild horse sign. This area consists of an old stand of Wyoming big sagebrush. Overall, perennial grasses show poor health and vigor with very few producing seed. The exception is Bottlebrush squirreltail grass that is the majority of grass caged within the shrubs protected from grazing pressure.

**Mountain Spring (Transect 3):** Transect is within part of an old chaining completed in the 60's. Old and fresh wild horse sign is visible with some old cattle sign. Some Galleta grass and Crested wheatgrass directly off the road but as I started walking the transect it all turned to cheatgrass and green rabbitbrush. Juniper trees have heavily encroached back into the treatment.

**Mountain Spring (Transect 4):** Old cattle sign and fresh wild horse and elk sign. This is also part of an old treatment that still has some understory that has persisted. This area is being heavily utilized and rabbit brush is starting to take over the site. The overall health and vigor of the key species is poor.

**g. 2018 Utilization**

TRANSECT # NUMBER	PASTURE	KEY SPECIES UTILIZATION					
		Galleta Grass	Bottlebrush Squirreltail Grass	Indian Ricegrass	Russian Wildrye	Sand Dropseed	Purple Three- Awn
Transect 1	Mountain Spring	36%	86%	----	----	----	----
Transect 2	Mountain Spring	32%	----	----	----	----	----
Transect 3	Mountain Spring	----	----	----	----	----	----
Transect 4	Mountain Spring	40%	Not enough samples	Not enough Samples	----	----	----
Transect 5	Bible Spring	38%	----	----	----	----	58%
Transect 6	Bible Spring	50%	----	----	71%	----	----

**Mountain Spring (Transect 1):** Fresh wild horse sign and tracks, no cattle tracks or sign. Galleta grass is the main available forage left in the area; squirreltail grass is few and scattered and are being picked out by wild horses, which is indicated by the severe use level.

**Mountain Spring (Transect 2):** Wild horse and cattle sign, but nothing recent. This site is similar to the last transect. Galleta grass is the most prevalent grass but shows poor health and vigor with almost absent seed production from the summer and will probably continue if current drought conditions and wild horses continue to utilize the area.

**Mountain Spring (Transect 3):** This stop was to see if cattle have utilized the Mountain spring enclosure, there should be no cattle or wild horse use if gates are kept up and fences are maintained. The gate was down, and cattle, wild horses, elk, and deer have all been using the inside of the enclosure. The majority of riparian species were grazes .5” – 2”.

**Mountain Spring (Transect 4):** The majority of sign at this site is from wild horses. Some old cattle sign. The most prevalent grass is galleta; overall, it shows poor health and vigor with almost absent seed production from the summer. Grasses that are more desirable are few and scattered resulting in heavy use.

**Mountain Spring (Transect 5):** A lot of old wild horse sign, but nothing I saw was recent. Some old cattle sign. Galleta grass is the most prevalent and show poor health and vigor. Un-grazed grasses are 3-5” while grazed grasses are about 1”. Purple three-awn and Wyoming big sagebrush are also being utilized at this site. This area is part of an old treatment that has been negatively impacted from years of constant wild horse use.

**Mountain Spring (Transect 6):** This is part of the same treatment in the same area. There is abundant wild horse sign with large piles from wild horses using the same area, some old cattle sign. Rabbit brush has started to replace what should be Wyoming sagebrush in many of the areas. Overall grasses show poor health and vigor with little to no potential for reproductive capability this spring unless we get a wet winter and spring leading to growing season.

#### h. 2019 Utilization

TRANSECT # NUMBER	PASTURE	KEY SPECIES UTILIZATION					
		Galleta Grass	Bottlebrush Squirreltail Grass	Indian Ricegrass	Intermediate Wheatgrass	Crested Wheatgrass	Purple Three- Awn
Transect 1	Mountain Spring	38%	----	Not Enough Samples	----	----	----
Transect 2	Mountain Spring	17%	Not Enough Samples	----	----	----	Not Enough Samples
Transect 3	Bible Spring	51%	----	34%	14%	29%	----
Transect 4	Bible Spring	47%	----	Not Enough Samples	----	Not Enough Samples	7%

**Mountain Spring (Transect 1):** Wyoming big sagebrush and cheatgrass is the dominant vegetation in this part of the pasture. Only came across two bunches of Indian ricegrass along the transect. Galleta grass is the most prevalent perennial grass, but is extremely short, most likely from dry summer which would have been its growing period. Both wild horse and cattle sign from fall/winter use.

**Mountain Spring (Transect 2):** Forage production is limited in this canyon, consists of mostly dense juniper and sagebrush with little herbaceous understory. Galleta grass is the most prevalent, desirable key species and is still extremely short. Old and recent cattle and wild horse manure.

**Mountain Spring (Transect 3):** This area was part of an old seeding that looks to be ES&R. Galleta grass is the most prevalent, desirable key species available for livestock and wildlife use. The other grasses are less frequent and are found mostly in the canopy of the sagebrush getting very little use. Old wild horse and cattle manure and tracks present.

**Mountain Spring (Transect 4):** This transect is similar to the last that it's part of an old treatment. However, this site has a lot more invasive species where the other site did not, which consist of rubber rabbit brush, cheatgrass and purple three-awn which is limiting perennial grass production. Mostly old wild horse manure, little old cow manure.



**i. 2021 Utilization**

TRANSECT # NUMBER	PASTURE	KEY SPECIES UTILIZATION					
		Galleta Grass	Bottlebrush Squirreltail Grass	Indian Ricegrass	Intermediate Wheatgrass	Purple Three-Awn	Sand Dropseed
Transect 1	Mountain Spring	28%	----	Not Enough Samples	----	----	----
Transect 2	Mountain Spring	23%	----	29%	----	----	----
Transect 3	Mountain Spring	16%	Not Enough Samples	Not Enough Samples	----	----	----
Transect 4	Mountain Spring	6%	----	----	----	----	----
Transect 5	Bible Spring	23%	----	----	----	----	47%
Transect 6	Bible Spring	30%	----	----	----	39%	----
Transect 7	Bible Spring	----	----	----	----	31%	----
Transect 8	Mountain Spring	13%	----	----	----	----	----

**Mountain Spring (Transect 1):** This area had good July and August rains that resulted in more Galleta grass than on an average year. The majority of un-grazed is 3-6” and shows fair vigor. But the majority did not produce seed heads. Cattle manure and tracks were evident along the transect, no wild horse sign. The transect is less than one mile from water which will have effect on use levels.

**Mountain Spring (Transect 2):** Cattle and horse manure evident along the transect. Un-grazed Galleta grass 3-6” and Indian ricegrass 3-5” more Galleta grass than average year with the late summer rains. Galleta grass shows good health and vigor. Indian ricegrass shows poor vigor and health.

**Mountain Spring (Transect 3):** Galleta grass is more prevalent and vigorous along this transect. Both cattle and wild horse use is evident.

**Mountain Spring (Transect 4):** Galleta grass is the dominant grass, old wild horse tracks but little recent sign since monsoonal rains that produced good production in Galleta grass. No cattle sign along the transect on average Galleta grass is 5-8” but patchy.

**Mountain Spring (Transect 5):** Perennial grasses shows poor health and vigor. Drought and year-round wild horse use have resulted in .5-1” un-grazed height of most grasses. Very little sign of wild horse, cattle, or wildlife use since summer rains.

**Mountain Spring (Transect 6):** Active wild horse use is apparent. No sign of summer or fall livestock grazing. Perennial grasses show poor health and vigor. 7 wild horses counted near the transect.

**Mountain Spring (Transect 7):** The area is surrounded by dense juniper with little understory. The main grasses in the burn are purple three-awn and cheatgrass. Very minimal old cattle sign, but old and recent wild horse sign was evident. Overall, all the area has very little forage production.

**Mountain Spring (Transect 7):** This transect was done on the hillside west of the road. No sign of livestock use. Some older wild horse manure. All the Galleta grass except for a few Bottlebrush Squirreltail Grasses were under Juniper trees.

#### **L. Pine Valley Allotment**

<b>PERMITTEE</b>	<b>NUMBER OF LIVESTOCK</b>	<b>GRAZING BEGIN</b>	<b>GRAZING END</b>	<b>AUMS</b>
Thomas Leigh (c/o Rawlin Platt)	36	05/15	09/15	122
Platt Livestock (c/o Rawlin Platt)	146	05/15	09/15	486

#### **Actual Use Data**

<b>YEAR/ALLOTMENT</b>	<b>PINE VALLEY</b>
2021	312
2020	546
2019	327
2018	403
2017	434*
2016	325*
2015	434*
2014	376
2013	372
2012	353
2011	433
2010	431
2009	293
2008	344
<b>Average</b>	<b>385</b>

\*Note actual use was taken from grazing bills, actual use reports were not available.

#### **a. 2010 Utilization**

<b>KEY AREA/TRANSECT NUMBER</b>	<b>KEY SPECIES UTILIZATION</b>
05142-02-02	57%
05142-01-04	42%

**05142-02-02:** The area was dominated by Crested wheatgrass. Perennial grasses were low in vigor as compared to the other Key Management Area. The interspaces between shrubs had bare ground with very little litter cover. Wild horse and livestock sign were present within the pasture.

**05142-01-04:** The area was dominated by Crested wheatgrass. Crested wheatgrass was vigorous and healthy. Rabbitbrush and Wyoming big sagebrush were the dominant shrubs. There was some soil movement within the area as indicated by slight pedestaling of grasses. Livestock sign was present within the pasture.

#### b. 2015 Utilization

TRANSECT # NUMBER	PASTURE	KEY SPECIES UTILIZATION	
		Indian Ricegrass/Needle and Threadgrass	Crested Wheatgrass
05142-01-02	Pine Valley	46%	26%
Transect #1	Pine Valley	-----	14%

**Pine Valley (05142-02-02):** This site was completed at the key area. The area appears to be a historic crested seeding site. Crested wheatgrass is the dominant perennial grass with scattered Indian ricegrass and needle and thread grass, Wyoming big sagebrush is the dominant shrub species present. The un-grazed height of crested wheat grass is 6-9 inches. Most of the grass is caged within the shrubs. Overall health, vigor and seed production is fair. Cattle and wild horse sign in the area indicated species use.

**Pine Valley (Transect #1):** This transect was completed near the trend study site 05142-04-04. The site was a historic crested wheatgrass seeding making crested wheatgrass the dominant perennial grass with the average un-grazed height of 6-9 inches. Key species health, vigor and seed production was fair. Cattle and wild horse sign were present and indicated species use. Broom snakeweed was excessive within area.

#### c. 2017 Utilization

TRANSECT # NUMBER	PASTURE	KEY SPECIES UTILIZATION	
		Galleta Grass	Crested Wheatgrass
Transect 1	Pine Valley	13%	38%
05142-02	Pine Valley	-----	42%
05142-04	Pine Valley	----	28%

**Pine Valley (Transect 1):** More sign of use from wild horses than cattle, indicated by recent tracks and manure with overall less use on Crested Wheatgrass, which shows good seed production.

Higher use is reflected by the poor distribution of grass due to heavy tree encroachment to the east which is limiting grazing use in the allotment.

**Pine Valley (05142-02):** Majority of use is from cattle with some wild horse use. The dominant perennial grass is Crested wheatgrass, with the only seed head production coming from grasses caged in shrubs and unavailable to grazing. Most grasses in interspaces had some use. I counted 5 wild horses.

**Pine Valley (05142-04):** Old cattle and wild horse sign with minimal use. Crested Wheatgrass has good seed production.

#### d. 2019 Utilization

TRANSECT # NUMBER	PASTURE	KEY SPECIES UTILIZATION				
		Galleta Grass	Crested Wheatgrass	Needle and Threadgrass	Intermediate Wheatgrass	Indian Ricegrass
Transect 1	East	----	----	26%	25%	----
Transect 2	East	-----	----	35%	----	32%
Transect 3 (KA)	East	----	17%	----	----	----
Transect 4	West	----	31%	----	----	----
Transect 5	East	----	23%	----	----	----
Transect 6	East	----	21%	10%	----	----
Transect 7	West	----	20%	----	----	----

**Pine Valley (Transect 1):** This transect is within a sagebrush draw surrounded by a pinyon/juniper stand with limited understory. Perennial grass along the transect is also limited and mostly restricted within the canopy of sagebrush un-accessible to livestock and most wildlife. Recent cattle manure and elk scat in the general area of transect.

**Pine Valley (Transect 2):** Recent cattle and wild horse manure on site. Needle-and-thread grass is the most prevalent perennial grass, with a fair amount going to seed, Indian ricegrass is less prevalent with pinyon and juniper heavily encroaching into a sagebrush dominant site.

**Pine Valley (Transect 3, KA):** This transect is within part of an old Crested wheatgrass seeding. The site is comprised of a monoculture of Crested wheatgrass with most over 2ft. tall and producing seed heads.

**Pine Valley (Transect 4):** This transect is also part of an old Crested wheatgrass seeding, resulting in a monoculture of Crested wheatgrass. The site is located near the south pond off the main road. Similar to last site with the majority of grass setting seed.

**Pine Valley (Transect 5):** Still part of old crested wheatgrass seeding, Cattle have hit this side of the pasture very little, wild horse manure and elk scat is present. The vast majority have produced seed heads.

**Pine Valley (Transect 6):** Part of crested wheatgrass seeding, but perennial grass is less abundant and cheatgrass and broom snakeweed are becoming invasive with lots of young pinyon and juniper growth in the general area.

**Pine Valley (Transect 7):** Part of crested wheatgrass seeding. This site is a mix between good stands of crested wheatgrass with open areas of broom snakeweed. There are a few scattered bunches of Indian ricegrass and needle-and-threadgrass, the few that landed in the transect were grazed heavily which would be expected with a limited amounts of a desirable grass to livestock and wildlife.

**e. 2021 Utilization**

TRANSECT # NUMBER	PASTURE	KEY SPECIES UTILIZATION				
		Galleta Grass	Crested Wheatgrass	Needle and Threadgrass	Intermediate Wheatgrass	Indian Ricegrass
Transect 1 (KA)	West	----	25%	----	----	----
Transect 2 (KA)	East	-----	28%	----	----	----
Transect 3	East	----	20%	-----	----	----
Transect 4	East	----	19%	----	----	----

**Pine Valley (Transect 1):** Recent rainstorms in the area has promoted green up on crested wheatgrass 4-6” of new growth, un-grazed 6-10”. The health and vigor is fair with the recent moisture. The majority will most likely not produce seed unless summer rain keeps promoting growth.

**Pine Valley (Transect 2):** Recent precipitation has promoted 5-8” of new growth on crested wheatgrass. Seed production is poor unless summer rains continue growth on key species. Utilization was based on old growth that was evident before the recent green up.

**Pine Valley (Transect 3):** New growth on the majority of crested wheatgrass is 2-4” of new growth. No sign of recent wild horse use along the transect.

**Pine Valley (Transect 4):** Like the last transects. Minimal cattle use and no sign of recent elk or wild horse use. This transect is a long way from water on the north end of the allotment.

### M. Rosebud Allotment

Permittee	Grazing Begin	Grazing End	AUMs
Hall, S & W. Company	5/1	11/30	83

### Actual Use Data

YEAR/ALLOTMENT	ROSEBUD
2020*	83
2019*	83
2018*	83
2017*	83
2016*	83
2015*	83
2014*	83
2013*	83
2012*	83
2011*	83
2010*	83
2009*	83
2008*	83
Average	83

\*Note actual use was taken from grazing bills, actual use reports were not available.

#### a. 2012 Utilization

Utilization data was collected within the Rosebud Allotment on December 13, 2012 following the 2012 grazing year. The following table illustrates the livestock use that occurred in the 2012 grazing year.

Transect Number	KEY SPECIES UTILIZATION	
	Indian Ricegrass	Mutton Grass
05157-01-01	20%	9%

**015157-01-01:** This site is in a heavily wooded area. The majority of the area is thick with pinion and juniper trees with little to no understory. In small open areas there is good plant species diversity with mutton grass and squirreltail being the most dominant grass species on site. Seed set was good on mutton grass and squirreltail but was lacking on all other grass species. There are fresh signs of deer and elk use. Wild horse and cattle sign were also seen on site but appeared to be old.

### b. 2013 Utilization

Utilization data was collected within the Rosebud Allotment on October 28, 2013, following the 2013 grazing year. The following table illustrates the livestock use that occurred in the 2013 grazing year.

Transect Number	KEY SPECIES UTILIZATION		
	Mutton Grass	Squirrel Tail	Bitter Brush
05157-01-01	21%	9%	20%
Transect 1	24%	17%	-----
Transect 2	23%	6%	-----

**05157-01-01:** This sites plant health and vigor was good. All grasses, forbs, and shrubs and good seed set. This site is in a heavily wooded area. There is good plant species diversity with mutton grass and squirreltail being the most dominant grass species on site

**Transect 1:** This is heavily encroached by pinyon and juniper trees. Antelope bitterbrush was abundant. Plant health and vigor was fair. The site shows use by wild horses, elk, and deer.

**Transect 2:** The site is primarily comprised of Black sagebrush with bitterbrush and grasses. Pinyon and juniper trees are encroaching into the site. The site shows signs of use by cattle, elk, deer, and wild horses.

### c. 2014 Utilization

Transect Number	KEY SPECIES UTILIZATION	
	Indian ricegrass	Bottlebrush Squirreltail
05157-01-01	17%	13%

**05157-01-01:** The site is dominated by juniper and pinyon pine. Black sagebrush dominated the understory. Perennial grass was uncommon. It would be expected that the site would be more highly productive; however, this is likely influenced by the dominance of juniper and pinyon pine. There was no visible soil erosion present.

### d. 2020 Utilization

Transect Number	KEY SPECIES UTILIZATION	
	Indian ricegrass	Bottlebrush squirreltail grass
T1	No Use	
T2	No Use	

**Transect 1:** No use. The BLM portion consists of a dense stand of pinyon and juniper with an almost absent perennial grass understory on the BLM side of the fence. The private has been re-seeded. No sign that cattle used BLM portion along the transect.

**Transect 2:** This portion of BLM is unfenced from the private section that has been treated and consists of a stand of trees similar to the last transect and has also not been utilized. Minimal use occurs on the BLM portions of this allotment.

## N. Sheep Spring Allotment

The Sheep Spring Allotment is comprised of the following acres:

Allotment	Public Acres	State Acres	Private Acres
Sheep Spring	15,373	0	0

The following table identifies the current season of use and the active grazing preference within the allotment.

PERMITTEE	LIVESTOCK NUMBER	LIVESTOCK KIND	GRAZING BEGIN	GRAZING END	PERCENT PUBLIC LAND	AUMS
National Mustang Association	19	Cattle	07/01	11/15	100	86

## Actual Use Data

YEAR/ALLOTMENT	SHEEP SPRING
2021	Nonuse
2020	Nonuse
2019	Nonuse
2018	Nonuse
2017	Nonuse
2016	Nonuse
2015	Nonuse
2014	Nonuse
2013	Nonuse
2012	Nonuse
2011	Nonuse
2010	Nonuse
2009	Nonuse
Average	0

## Utilization Data

### a. 2010 Utilization

Utilization data was collected within the Sheep Spring Allotment on September 24, 2010.

Transect Number	KEY SPECIES UTILIZATION	
	Crested Wheatgrass	Intermediate Wheatgrass
05145-01-01	23%	21%



**05145-01-01:** Crested wheatgrass and Intermediate wheatgrasses comprise the Key Species at this site. All perennial grasses were vigorous and seeded out. Wild horses have been gathered and this was the best the seeding has looked in last 3 years. Elk sign was present within the area.

**b. 2012 Utilization**

Utilization data was collected within the Sheep Spring Allotment on October 4, 2012.

Transect Number	KEY SPECIES UTILIZATION	
	Crested Wheatgrass	Intermediate Wheatgrass
05145-01-01	62%	56%

**05145-01-01:** Crested wheatgrass and Intermediate wheatgrasses comprise the key species at this site. Other species present include: rubber rabbitbrush, bitterbrush, Utah juniper, Wyoming big sagebrush, bottlebrush squirreltail, purple three-awn, cheatgrass, pinion pine, loco weed, buckwheat, galleta, and smooth brome. Rubber rabbitbrush is very abundant. Pinion/juniper encroachment is evident. Perennial grasses show good vigor on the site with good distribution in the interspaces. Wyoming big sagebrush displayed low seed production. Wild horses were present. Elk and deer sign was also present. Site needs utilization cage.

**c. 2015 Utilization**

See Study Photos Showing Heavy and Severe use on Wilson Canyon area.

**d. 2016 Utilization**

TRANSECT NUMBER	KEY SPECIES UTILIZATION		
	Intermediate Wheatgrass	Purple Three-awn	Crested Wheat
1	74%	-	66%
2	-	51%	70%

The Winter had good moisture, but spring was dryer than usual. This was followed by normal monsoonal weather in the late summer. The monsoon will increase the amount of available forage but even with that it is still below average. In most areas the key species were intermediate wheatgrass and crested wheatgrass, but one area did not have enough crested to monitor so purple three awn was monitored instead. Other parts of this pasture are thick pinion and juniper stands with little or no understory

**e. 2018 Utilization**

TRANSECT # NUMBER	KEY SPECIES UTILIZATION		
	Smooth Brome Grass	Purple Three-Awn	Galleta Grass
Transect 1	54%	57%	----
Transect 2	65%	47%	----
Transect 3	----	----	58%

**Sheep Spring (Transect 1):** This area was part of an old mastication treatment. Recent and old sign from both wild horses and elk is evident. No Cattle sign. Rabbitbrush has replaced the sagebrush component that should be present. Perennial grasses are limited resulting in moderate-heavy use on what is left. I think through wild horse gathers numbers are better in this area, most of the disturbance was from the past, but has now limited forage.

**Sheep Spring (Transect 2):** Still part of old treatment. Purple three-awn is slightly more prevalent at this site, and area shows a lot more promise in recruitment of young sagebrush, but the majority of the area has been replaced by rabbitbrush.

**Sheep Spring (Transect 3):** Still within treated area. Recent and old wild horse sign is present. Trees were more spread out in this area before treatment and still had some sagebrush and grass understory. The dominant grass here is galleta grass with scattered bunces of purple three-awn. Overall, the health and vigor of the grass is fair.

**f. 2020 Utilization**

TRANSECT # NUMBER	KEY SPECIES UTILIZATION			
	Smooth Brome Grass	Purple Three-Awn	Crested Wheatgrass	Bottlebrush Squirreltail Grass
Transect 1	Not Enough Samples	----	61%	----
Transect 2	Not Enough Samples	7%	Not enough Samples	10%
Transect 3	----	----	54%	---

**Sheep Spring (Transect 1):** The Mustang Association has the grazing permit and takes non-use annually. Perennial grasses not being utilized are within the thick canopy of the brush. Some deer and elk tracks and scat. The drought year has resulted in little new growth on perennial grass with almost no new seed set.

**Sheep Spring (Transect 2):** Purple three-awn & cheatgrass are the most dominant grasses. Not as much wild horse sign as the last site. This site is more on the hills and flats and out of the wash bottoms. Other grasses are limited and mostly restricted to the canopy of shrubs.

**Sheep Spring (Transect 3):** Wild horse sign is abundant. Perennial grasses are sparse with the dominant grass being cheatgrass. Vigor of perennial grass is poor with drought conditions. Crested wheatgrass in interspaces is only 2-3” while un-grazed grasses in the canopy of the shrubs are 20-22”. I did not see any wild horses within the allotment while doing utilization.

## **O. Water Hollow Allotment**

The Water Hollow Allotment consists of the following acres:

<b>ALLOTMENT</b>	<b>PUBLIC ACRES</b>	<b>STATE ACRES</b>	<b>TOTAL ACRES</b>
Water Hollow	28,301	3,687	31,988

<b>NUMBER OF LIVESTOCK</b>	<b>KIND OF LIVESTOCK</b>	<b>SEASON OF USE</b>	<b>PERCENT PUBLIC LAND</b>	<b>ACTIVE AUMS</b>	<b>SUSPENDED AUMS</b>
272	Cattle	05/01 to 11/30	90%	1,722	1,018

The following tables identify the current season of use and the active grazing preference within the allotment.

The grazing management system will eliminate repeated grazing use by livestock during the critical growing season. The following tables identify the season of use for each of the pastures as well as a rest rotation grazing management system.

The spring pastures (Middle Seeded, North Seeded and South Seeded) will be utilized on a three-year rotation schedule as described below. At the end of the third year, the grazing rotation schedule will start over. Each pasture will be rested once every three years.

	<b>North Seeded Pasture</b>	<b>Middle Seeded Pasture</b>	<b>South Seeded Pasture</b>
<b>YEAR 1</b>	5/01-5/21	5/21-6/15	REST
<b>YEAR 2</b>	5/21-6/15	REST	5/01-5/21
<b>YEAR 3</b>	REST	5/01-5/21	5/21-6/15

The summer/fall pastures (Lime Point, Observation Knoll, Water Hollow and West Bench) will be utilized following the four year rotation below. Each pasture will be rested once every four years. At the end of the fourth year, the grazing rotation schedule will start over.

	Water Hollow Pasture	Lime Point Pasture	Observation Knoll Pasture	West Bench Pasture
<b>YEAR 1</b>	6/16-8/1	8/1-10/01	10/1-11/30	REST
<b>YEAR 2</b>	8/1-10/01	10/1-11/30	REST	6/16-8/1
<b>YEAR 3</b>	10/1-11/30	REST	6/16-8/1	8/1-10/01
<b>YEAR 4</b>	REST	6/16-8/1	8/1-10/01	10/1-11/30

### Actual Use Data

YEAR/ALLOTMENT	WATER HOLLOW
2021	939
2020	1325
2019	1507
2018	1347
2017	1469
2016	1512
2015	1539
2014	1484
2013	1714
2012	1642
2011	1666
2010	1551
2009	1222
<b>Average</b>	<b>1455</b>

#### a. 2012 Utilization

Utilization data was collected within the Water Hollow Allotment on September 27 and November 8, 2012 following the 2012 grazing year. The following table illustrates the livestock use that occurred in the 2012 grazing year.

Transect Number	Pasture	KEY SPECIES UTILIZATION			Galleta Grass
		Indian Ricegrass	Needle & Thread	Crested Wheatgrass	
06222-05-15	Upper Seeding	---	---	27%	----
06222-01-11	Water Hollow	Non-use	Non-use	----	----
06222-06-07	Lower Seeding	----	Non-use	----	----
06222-02-10	West Bench	37%	37%	----	24%

**06222-05-15 (Upper Seeding):** Crested wheatgrass comprises the Key Species at this site. Other species present include: Wyoming Big Sagebrush, Ephedra, galleta, Green Rabbitbrush, Needle-and-Thread, Sand Dropseed, and Russian thistle. Perennial grasses show good vigor on the site. This site has received light grazing pressure. Cattle and elk sign were observed, although neither were fresh.

**06222-01-11 (Water Hollow):** Indian Ricegrass and Needle-and-Thread comprise the Key Species at this site. Other species present include: Black Sagebrush, Blue Grama, Sand Dropseed, Ephedra, and Utah Juniper. Grazing use was not observed at this site. Grasses show high vigor and are abundant on the site. Pinion/juniper encroachment onto site observed. Livestock sign was not present. Wild horses and pronghorn were observed near the key area.

**06222-06-07 (Lower Seeding):** Needle-and-Thread comprises the Key Species at this site. Other species present include: Black Sagebrush, Blue Grama, Sand Dropseed, Ephedra, and Utah Juniper. Grazing use was not observed at this site. Grasses show high vigor and are abundant on the site. Pinion and Juniper encroachment onto site observed. Livestock sign was not present. Wild horses were observed near the key area.

**06222-02-10 (West Bench):** Indian Ricegrass, Needle-and-Thread, and Galleta comprise the Key Species at this site. Other species present include: Wyoming Big Sagebrush, Black Sagebrush, Blue Grama, Green Rabbitbrush, Bottlebrush Squirreltail, Intermediate Wheatgrass, Purple Three-Awn, and Globemallow. This site received light grazing use. Grasses show good vigor and abundance. Cattle were present near the key area when assessed.

#### **b. 2013 Utilization**

Utilization data was collected within the Water Hollow Allotment on November 20 and December 3, 2013 following the 2013 grazing year. The following table illustrates the livestock use that occurred in the 2013 grazing year.

Transect Number	Pasture	KEY SPECIES UTILIZATION			Galleta Grass
		Indian Ricegrass	Needle & Thread	Crested Wheatgrass	
06222-05-15	Upper Seeding	---	---	27%	----
06222-01-11	Water Hollow	Non-use	Non-use	----	----
06222-06-07	Lower Seeding	----	Non-use	----	----
06222-02-10	West Bench	37%	37%	----	24%

**06222-05-15 (Upper Seeding):** Crested wheatgrass comprises the Key Species at this site. Other species present include: Wyoming Big Sagebrush, Ephedra, galleta, Green Rabbitbrush, needle-and-thread, Sand Dropseed, and Russian thistle. Perennial grasses show good vigor on the site. This site has received light grazing pressure. Cattle and elk sign were observed, although neither were fresh.

**06222-01-11 (Water Hollow):** Indian Ricegrass and Needle-and-Thread comprise the Key Species at this site. Other species present include: Black Sagebrush, Blue Grama, Sand Dropseed, Ephedra, and Utah Juniper. Grazing use was not observed at this site. Grasses show high vigor and are abundant on the site. Pinion/juniper encroachment onto site observed. Livestock sign was not present. Wild horses and pronghorn were observed near the key area.

**06222-06-07 (Lower Seeding):** Needle-and-Thread comprises the Key Species at this site. Other species present include: Black Sagebrush, Blue Grama, Sand Dropseed, Ephedra, and Utah Juniper. Grazing use was not observed at this site. Grasses show high vigor and are abundant on the site. Pinion/juniper encroachment onto site observed. Livestock sign was not present. Wild horses were observed near the key area.

**06222-02-10 (West Bench):** Indian Ricegrass, Needle-and-Thread, and Galleta comprise the Key Species at this site. Other species present include: Wyoming Big Sagebrush, Black Sagebrush, Blue Grama, Green Rabbitbrush, Bottlebrush Squirreltail, Intermediate Wheatgrass, Purple Three-Awn, and Globemallow. This site received light grazing use. Grasses show good vigor and abundance. Cattle were present near the key area when assessed.

### c. 2014 Utilization

Transect Number	Pasture	KEY SPECIES UTILIZATION			Galleta Grass
		Indian Ricegrass	Needle & Thread	Winterfat	
06222-03-05	Observation Knoll	30%	28%	----	----
06222-06-07	Lower Seeding	17%	9%	----	----
06222-04-09	Lime Point	25%	29%	16%	----
06222-02-10	West Bench	----	32%	----	----
06222-01-11	Water Hollow	14%	8%	----	----
06222-05-15	Middle Seeding	----	----	----	----
Transect #1	Lower Seeding	----	9%	----	----
Transect #2	West Bench	36%	----	----	----

**06222-03-05 (Observation Knoll):** Indian Ricegrass and Needle-and-Thread were dominant perennial grasses. Average perennial grass height was 5-10". Perennial grass vigor was good. Wild horse and elk sign were present. Very little cattle sign in the area.

**06222-06-07 (Lower Seeding):** Needle-and-Thread and Indian Ricegrass were dominant perennial grasses. Average perennial grass height was 8-12". Elk, cattle and wild horse sign were observed.

**06222-04-09 (Lime Point):** Needle-and-Thread and Indian Ricegrass were dominant perennial grasses. Winterfat was present throughout the area. Wild horse and pronghorn sign were observed. There was very little cattle sign in the area.

**06222-02-10 (West Bench):** Needle-and-Thread was the dominant perennial grass. Needle-and-Thread and Indian Ricegrass showed good vigor with abundant seed production. Perennial grass height was 8-12”.

**06222-01-11 (Water Hollow):** Needle-and-Thread and Indian Ricegrass were the dominant perennial grass. Needle-and-Thread and Indian Ricegrass showed good vigor with abundant seed production. Perennial grass height was 8-12”.

**Transect #1 (Lower Seeding):** Needle-and-Thread was very vigorous with abundant seed production. Needle-and-thread height was 10-14”. Elk sign was observed. No cattle sign was observed.

**Transect #2:** Crested Wheatgrass was the dominant perennial grass present. There were bare interspaces between Crested Wheatgrass plants, which is leading to water flow patterns in the area. Elk and cattle sign were observed.

#### d. 2015 Utilization

Transect Number	Pasture	KEY SPECIES UTILIZATION			Galleta Grass
		Indian Ricegrass	Needle & Thread	Crested Wheatgrass	
06222-02-10	West Bench	19%	22%	----	----
06222-05-15	Middle Seeding	---	---	43%	----

**06222-02-10 (West Bench):** Perennial grasses show good vigor and distribution. Wild horse and cattle sign observed.

**06222-05-15 (Middle Seeding):** Abundant rabbitbrush was present in portions of the seeding. Crested wheatgrass was 4-6” (ungrazed) and 2-3” (grazed).

#### e. 2016 Utilization

Transect Number	Pasture	KEY SPECIES UTILIZATION			Galleta Grass
		Indian Ricegrass	Needle & Thread	Crested Wheatgrass	
06222-02-10	West Bench	---	20%	----	----
06222-05-15	Middle Seeding	---	---	38%	---
06222-04-09	Lime Point	29%	24%	---	---
06222-03-05	Observation Knoll	18%	26%	---	---

**06222-02-10 (West Bench):** Needle-and-Thread was the dominant perennial grass. Needle-and-Thread and Indian Ricegrass showed good vigor with abundant seed production.

**06222-05-15 (Upper Seeding):** Crested wheatgrass comprises the Key Species at this site. Other species present include: Wyoming Big Sagebrush, Ephedra, galleta, Green Rabbitbrush, needle-and-thread, Sand Dropseed, and Russian thistle. Perennial grasses show good vigor on the site. This site has received light grazing pressure. Cattle and elk sign were observed, although neither were fresh.

**06222-04-09 (Lime Point):** Needle-and-Thread and Indian Ricegrass were dominant perennial grasses. Winter fat was present throughout the area. Sixteen wild horses were counted in the pasture. There was very little cattle sign in the area.

**06222-03-05 (Observation Knoll):** Indian Ricegrass and Needle-and-Thread were dominant perennial grasses. Perennial grass vigor was good. Wild horse and elk sign were present. Very little cattle sign in the area.

#### f. 2017 Utilization

Transect Number	Pasture	KEY SPECIES UTILIZATION				
		Indian Ricegrass	Crested Wheatgrass	Winter fat	Needle & Thread	Nevada jointfir
Transect #1 06222-05-15	Middle Seeding	---	49%	---	---	Not Enough Samples
Transect #2	South Seeding	---	46%	---	----	---
Transect #3 06222-06-07	South Seeding	---	---	---	30%	---
Transect #4	Water Hollow	35%	---		24%	Not Enough Samples
Transect #5 06222-11	Water Hollow	No Use	---	---	No Use	---
Transect #6	Water Hollow	No Use	---	---	No Use	---
Transect #7 06222-04-09	Lime Point	Not Enough Samples	---	Not Enough Samples	44%	----
Transect #8 06222-05	Observation Knoll	51%	---	---	---	----
Transect #9 06222-06	Observation Knoll	17%	---	---	Not Enough Samples	----

**Transect #1 06222-05-15 (Middle Seeding):** Wyoming Big Sagebrush, Ephedra, galleta, Green Rabbitbrush, needle and thread, Sand Dropseed, and Russian thistle. Perennial grasses show good vigor on the site. Cattle and elk sign were observed.

**Transect #2 (South Seeding):** Wyoming Big Sagebrush, Utah juniper moving down from the slopes. Perennial grasses show good vigor. Cattle sign observed.

**Transect #3 06222-06-07 (South Seeding):** Wyoming Big Sagebrush, pinyon pine, Utah juniper. Elk, cattle and wild horse sign were observed.

**Transect #4 (Water Hollow):** Black Sagebrush, purple three awn, pinyon pine and Utah juniper.



**Transect #5 06222-11 (Water Hollow):** Pinyon pine, Black Sagebrush, purple three awn, broom snake weed, Blue Grama.

**Transect #6 (Water Hollow):** Pinyon pine, Utah juniper, Wyoming Big Sagebrush. Old elk sign and old wild horse sign.

**Transect #7 06222-04-09 (Lime Point):** Pinyon pine, Utah juniper, Wyoming Big Sagebrush, broom snake weed present. Abundant wild horse and some pronghorn sign were observed. No cattle sign in the area.

**Transect #8 06222-05 (Lime Point):** Pinion pine, Utah juniper, Wyoming Big Sagebrush, broom snake weed and cheat grass. Abundant fresh and old horse sign. No cattle sign in the area.

**Transect #9 06222-06 (Observation Knoll):** Pinion pine, Utah juniper, cheat grass and broom snakeweed. Old wild horse sign present.

#### g. 2018 Utilization

Transect Number	Pasture	KEY SPECIES UTILIZATION
		Indian Ricegrass/Needle and Thread
06222-05	Observation Knoll	40%

**06222-05 (Observation Knoll):** Rubber rabbitbrush, Broom Snakeweed, and Black Sagebrush. Wild horse sign and cattle sign present. Litter is present.

#### h. 2019 Utilization

Transect Number	Pasture	KEY SPECIES UTILIZATION
		Indian Ricegrass/Needle and thread
06222-02-10	West Bench	40%

**06222-05 (Observation Knoll):** Rubber rabbitbrush, Broom Snakeweed, and Black Sagebrush. Wild horse sign and cattle sign present. Litter is present.

#### i. 2021 Utilization

Transect Number	Pasture	KEY SPECIES UTILIZATION				Sand dropseed
		Indian Rice grass	Crested Wheat Grass	Needle & Thread	Winter fat	
06222-04-09	Lime Point	53%		29%	11%	Not Enough Samples
06222-05-15	Middle Seeding	Not Enough Samples	53%	----	----	----
Transect #1	North Seeded	47%	34%	---	----	----

**06222-04-09 (Lime Point):** Black Sagebrush, Broom Snakeweed and Cheatgrass. Wild horses were present (6 wild horses) and pronghorn (20) were observed. Winterfat flowered (4-6” leader growth), Indian Ricegrass some green up and seeded out. There was very little cattle sign in the area and old sign. Moisture was present at soil surface.

**06222-05-15 (Middle Seeding):** SPCO, ARTRW, ERNA, Galleta Grass, Prickly Pear Cactus and Mormon Tea. Indian rice grass showed very little green up. Crested Wheat Grass showed good vigor and growth (6-8” green up). Elk sign present and old cow sign. Soil moisture at surface (rained yesterday).

**Transect #1 (North Seeded):** Purple Three-Awn, Wyoming Big Sagebrush, and Globemallow (abundant). Soil moisture present at surface. Crested Wheat Grass showed good vigor, Crested Wheatgrass (8-10” green up), Indian Ricegrass (6-8” green up). Elk, pronghorn, and cow sign present.

#### **P. Willow Creek Allotment**

The Willow Creek Allotment consists of the following acres:

<b>ALLOTMENT</b>	<b>PUBLIC ACRES</b>	<b>STATE ACRES</b>	<b>TOTAL ACRES</b>
Willow Creek	48,127	15,907	159

<b>PERMITTEE</b>	<b>ALLOTMENT</b>	<b>NUMBER OF LIVESTOCK</b>	<b>KIND OF LIVESTOCK</b>	<b>SEASON OF USE</b>	<b>PERCENT PUBLIC LAND</b>	<b>AUMS</b>
R. Larson Sheep Co.	Willow Creek	116 1293	Cattle Sheep	10/20- 05/31	41% 100%	350 1905
Jordan W. & Joel Hatch	Willow Creek	230 500	Cattle Sheep	10/20-5/31	77%	1304 570

The following table identifies the grazing management system, which eliminates repeated critical growing period use within any one pasture.

<b>Season of Use</b>	<b>October 20- December 31</b>	<b>January 1 – February 28</b>	<b>March 1 – April 15</b>	<b>April 16 –May 31</b>
Year 1 Pasture	Kiln Spring	South 1	South 2	Antelope Spring
Year 2 Pasture	Antelope Spring	Kiln Spring	South 1	South 2
Year 3 Pasture	South 2	Antelope Spring	Kiln Spring	South 1
Year 4 Pasture	South 1	South 2	Antelope Spring	Kiln Spring

## Actual Use Data

YEAR/ALLOTMENT	WILLOW CRFEEK
2020	695
2019	587
2018	1618
2017	1430
2016	1373
2015	1501
2014	2066
2013	2829
2012	1439
2011	2371
2010	505
2009	1653
<b>Average</b>	<b>1506</b>

### a. 2014 Utilization

Utilization data was collected within the Willow Creek Allotment on April 2, 2014.

Transect Number	Pasture	KEY SPECIES UTILIZATION				Galleta Grass
		Indian Ricegrass	Black Sagebrush	Winterfat	Sand Dropseed	
1 (Key Area)	South 1	42%	----	----	----	11%
1	Kiln	9%	28%	----	----	----
2	Kiln	57%	----	----	----	----
3	Kiln	60%	25%	27%	----	28%
2	South 1	55%	----	46%	32%	3%

**Transect 1 (Key Area) (South 1 Pasture):** Indian Ricegrass and Galletta Grass were present at the Key Management Area. Only cattle sign was present at the site.

**Transect 1 (Kiln Pasture):** Indian Ricegrass and Black Sagebrush were present at the site. There was some sign present.

**Transect 2 (Kiln Pasture):** Indian ricegrass was present at the site. Western Wheatgrass on the hillsides was unused. Bottom of the canyon had heavy sheep sign and old cattle, wild horse and elk sign.

**Transect 2 (South 1 Pasture):** Indian Ricegrass, Galletta Grass, Sand Dropseed and Winterfat were present. Indian Ricegrass was being utilized while Galletta grass was un-grazed. Livestock sign was present.

**Transect 3 (Kiln Pasture):** Indian ricegrass, Galletta grass, Winterfat and Black sagebrush were present. Sheep sign was present. Cattle, wild horse, and elk sign present; however, it was old from last year.

#### b. 2019 Utilization

Utilization data was collected within the Willow Creek Allotment on June 26, 2019.

Transect Number	Pasture	KEY SPECIES UTILIZATION		
		Indian ricegrass	Black Sagebrush	Winter fat
06204-01	South 1	25%	----	24%
Transect 1	Kiln	23%	38%	---
06204-3	Kiln	---	----	23%

**06204-01 (South 1 Pasture):** Cheatgrass, Bottlebrush Squirrealtail, Wyoming Big Sagebrush, Sand Dropseed, Milkvetch, and Four-Wing Salt Brush.

**Transect 1 (Kiln Pasture):** Cheatgrass, Yellow Rabbitbrush, Broom Snakeweed, and Four-Wing salt brush.

**06204-03 (Kiln Pasture):** Cheatgrass, Shadscale, Yellow Rabbit Brush, and Annual Kochia. Old and new livestock sign, mostly old (pre-spring growth).

#### a. 2020 Utilization

Utilization data was collected within the Willow Creek Allotment on April 8<sup>th</sup>, 2020 and June 18<sup>th</sup>, 2020.

TRANSECT # NUMBER	PASTURE	KEY SPECIES UTILIZATION				
		Indian Ricegrass	Shadscale saltbrush	Needle and threadgrass	Nevada jointfir	Winterfat
06204-03-02	Antelope Spring	---	----	---	29%	31%
Transect 2	Antelope Spring	---	---	---	----	20%
Transect #1	South 1	36%	----	---	29%	21%
06204-04-01	South 1	---		---		---

**Antelope Spring (06204-03-02):** Galleta Grass, Ephedra, Indian Ricegrass, Winterfat (un-grazed 12-14") Cows present, soil moisture within 2".

**Antelope Spring (Transect 2):** Winterfat (6" leader growth), EPNE (4-6" growth), Four-Wing Saltbush, and Winterfat (good vigor), Cheatgrass, Galleta Grass, Prickly Pear Cactus, and Purple Three-Awn. Moisture more than 2", sight is rocky. Indian ricegrass green up is present but sparse.

**South 1 (Transect 1):** Cheatgrass, Broom Snakeweed, Galleta Grass. Soil moisture within 1"

**South 1 (06204-04-01):** Cheatgrass, Broom Snakeweed, Galleta Grass, Wyoming Big Sagebrush, Indian ricegrass (4-6" growth). Galleta Grass dominant.

## **Bible Spring Complex Gather Allotment Summaries**

### **1. Bennion Spring Allotment**

The Bennion Spring Allotment consists of 6,536 acres (BLM), 640 (SITLA) and 6,894 (Private) of these acreages 3,743 acres are within the Tilly Creek HMA (42% of the allotment is in the Tilly Creek HMA). Average actual livestock use has been approximately 741 AUMs, which is within the permitted grazing preference. The allotment is grazed from February 1<sup>st</sup> – November 30<sup>th</sup> under a 3-year pasture rotation system which provides for critical growing period rest. The allotment is utilized by 1 livestock permittee. Habitat improvement projects consist of: (Chaining – 581 acres was completed in 1988 and 329 acres completed in 1975. Utilization was exceeded within areas of the allotment in 2011, 2014, 2015, 2016 & 2020 with wild horses and wildlife contributing to moderate – heavy utilization along those transects. Nested frequency data indicates that there is a static trend at all 3 key management areas (3 – Static) recorded within the allotment.

### **2. Bucket Ranch Allotment**

The Bucket Ranch Allotment consists of 20,905 acres (BLM), 12,749 (SITLA) and 197 (Private) of the public land acreages, 17,794 acres (96%) is within the Blawn Wash HA. AML for the Blawn Wash HMA is zero due to land exchanges that placed the most productive part of the HMA into state ownership. Livestock grazing preference within the allotment is 307 AUMs (cattle). Average actual use livestock use has been approximately 56 AUMs, which is within the permitted grazing preference. The allotment is grazed from June 1<sup>st</sup> – Sep. 30<sup>th</sup> each year. The allotment is utilized by 1 livestock permittee. A three-year grazing management system is utilized by the permittees to provide for critical growing period rest within each pasture two out of three years. Habitat improvement projects consist of Bucket Ranch Resource chaining – 1000 acres in 1964 and Wah Wah Chaining – 1400 acres in 1965. Wild Horses spend most of the spring, summer and fall within these seedings. Utilization has been exceeded in years 2011, 2014, and 2016, of which in 2014 and 2016 the permittee took non-use and utilization was attributed to wild horses and wildlife (elk). Nested frequency data indicates that there is a static trend at the key management area (1 – Static, 1 – Unrated (baseline data)) within the allotment.

### **3. Bull Spring**

The Bull Spring Allotment consists of 21,205 acres (BLM), 1,357 (SITLA) and 634 (Private) of these acreages 14,632 acres are within the Four Mile HMA (62% of the allotment is in the Four Mile HMA). Average actual livestock use has been approximately 706 AUMs, which is within the permitted grazing preference. The allotment is grazed from June 1<sup>st</sup> – February 28<sup>th</sup> under a 3-year pasture rotation system which provides for critical growing period rest. The allotment is utilized by 1 livestock permittee. Habitat improvement projects consist of an ES&R seeding and chaining following the Broken Ridge fire in 2010. Utilization was exceeded within areas of the allotment in 2012/2013, 2013/2014 pre-livestock turnout,

2017, 2019, 2020/2021, 2021/2022 with wild horses and wildlife contributing to moderate – heavy utilization along those transects. Nested frequency data indicates that there is (1-static, 1-downward) Key Area trend sites within the HMA.

#### **4. Culver Spring**

The Culver Spring Allotment consists of 438 acres (BLM), 638 (SITLA) and 39 (Private) of these acreages 73 acres are within the Bible Spring HMA (5% of the allotment is in the Bible Springs HMA). Average actual livestock use has been approximately 26 AUMs, which is within the permitted grazing preference. The allotment is grazed from February 20th – April 30th. The allotment is utilized by 1 livestock permittee. No habitat improvement projects have been completed on this allotment. Utilization levels have never been exceeded during utilization reporting. Only a photo plot is available at the key area. Photos shows old sagebrush stand with limited understory and indicates little change has occurred over time.

#### **5. Gold Spring (Eight Mile Spring Pasture)**

The Gold Spring Allotment (Eight Mile Spring Pasture) consists of 4,110 acres (BLM), 0 (SITLA) and 1,304 (Private) of these acreages 2,771 acres are within the Tilly Creek HMA (51% of the pasture is in the Tilly Creek HMA). Average actual livestock use has been approximately 188 AUMs for the entire allotment, all other pastures are within the Eagle Complex HMA, which is within the permitted grazing preference. The allotment is grazed from April 1<sup>st</sup> – October 15<sup>th</sup> under a 2-year pasture rotation system which provides for critical growing period rest the 1<sup>st</sup> year grazed on a private pasture. The allotment is utilized by 1 livestock permittee. Habitat improvement projects consist of a 153-acre chaining from 1987 and an area that burned in 2021 (Big Summit Fire) and was just aerially seeded. Utilization was exceeded within the other pastures of the allotment which are part of the Eagle Complex HMA. The Eight Miles Springs pasture gets minimal livestock, wildlife and wild horses use except for the actual Eight Mile Spring. An enclosure was built in 2019 to prevent excessive wild horse use. Water is available for wild horses outside the riparian area. Only key area photo data was available within the pasture and appears static with no apparent change.

#### **6. Jackson Wash**

The Jackson Wash Allotment consists of 19,346 acres (BLM), 1,831 (SITLA) and 13,779 (Private) of these acreages 373 acres are within the Tilly Creek HMA, 2,175 acres are within the Sulphur HMA, and 16,193 acres are within the Bible Springs HMA. (37% of the allotment is in the Bible Springs HMA, 4% in the Sulphur HMA and 1% Tilly Creek HMA). Average actual livestock use has been approximately 1,170 AUMs, which is within the permitted grazing preference. The allotment is grazed from February year-round under a 3-year pasture rotation system which provides for critical growing period rest. The allotment is utilized by 1 livestock permittee. Habitat improvement projects consist of the Arrowhead resource chaining in 1984, Bailer station chaining of 1,215 acres in 1987, Juniper Allotment #2 chaining of 712 acres in 1965 and Juniper allotment Chaining of 1,012 acres in 1965. Utilization was exceeded within areas of the allotment in 2012, 2013, 2015, 2017, 2020 & 2021, with wild horses and wildlife contributing to moderate – heavy utilization along those transects. Nested frequency data indicates that there is a static trend at the key management area (1 – Static) recorded within the allotment.

#### **7. Jockeys Allotment**

The Jockeys Allotment consists of 40,636 acres (BLM), 5,715 (SITLA) and 882 (Private), of these acreages 5,103 acres are within the Blawn Wash HA and 21,432 acres within the Four Mile HMA (55% of the

allotment between both HMAs). AML for the Blawn Wash HMA is zero due to land exchanges that placed the most productive part of the HMA into state ownership. Average actual livestock use has been approximately 606 AUMs, which is within the permitted grazing preference. The allotment is grazed year round under a 5 year pasture rotation system which provides for critical growing period rest. The allotment is utilized by 2 livestock permittees. Habitat improvement projects consist of Jockey Resource Chaining East – 618 acres in 1957, Jockey Resource Chaining West – 647 acres in 1958, Blawn Mountain Lop and Scatter – 2,367 acres in 2021. Utilization has been exceeded in years 2013, 2014 and 2017, which has shown wild horses and wildlife within the area. Nested frequency data indicates that there is a static trend at the key management areas (3 – Static) within the allotment.

## **8. Lone Pine Spring Allotment**

The Lone Pine Spring Allotment consists of 29,754 acres (BLM), 1,671 (SITLA) and 431 (Private) of these acreages 17,338 acres are within the Bible Spring HMA and 10,749 acres are within the Four Mile HMA. (53% of the allotment is in the Bible Springs HMA and 33% in the Four Mile HM). Average actual livestock use has been approximately 1,170 AUMs, which is within the permitted grazing preference. The allotment is grazed from June 1<sup>st</sup> – November 30<sup>th</sup> under a 3-year pasture rotation system which provides for critical growing period rest. The allotment is utilized by 1 livestock permittee. Habitat improvement projects consist of 4,929 acres that was seeded and a portion of that chained during ESR treatments following the Broken Ridge fire in 2011, 2,469, Lone Pine disking of 98 acres in 2007, Lone Pine Chaining of 2,219 acres in 1970 and Jackson Wash Fire Aerial seeding in 2001. Utilization was exceeded within areas of the allotment in 2009, 2010, 2011, 2013, 2014 (pre-livestock turnout), 2015, 2017, 2018, 2020 & 2021, with wild horses and wildlife contributing to moderate – heavy utilization along those transects. Nested frequency data indicates that there is 3 static trends and 1 downward trend at the key management areas (3 – Static, 1-downward) recorded within the allotment.

## **9. Lund**

The Lund Allotment consists of 32,768 acres (BLM), 5,658 (SITLA) and 9,908 (Private) of these acreages 10,027 acres are within the Four Mile HMA. Average actual livestock use has been approximately 1,246 AUMs, which is within the permitted grazing preference. The allotment is has a season on use period from March 1<sup>st</sup> – February 28<sup>th</sup> under a 2-year pasture rotation system. The allotment is utilized by 1 livestock permittee. Habitat improvement projects consist of the Four Mile Wash Contract Chaining, 1,128 acres, completed in 1971, K. Jenson Contract Chaining project, 758 acres, completed in 1953, A small portion of the Broken Ridge Fire ESR treatment > 400 acres in 2011 and the Lund ESR seeding, 866 acres that were seeded following a small fire in 2021. Utilization was exceeded within areas of the allotment in 2013/2014 and 2016 with wild horses and wildlife contributing to moderate – heavy utilization along those transects. Nested frequency data indicates that there are two key areas within the HIM boundary 1 static trend and 1 downward trend at the key management areas (1 – Static, 1-downward) recorded within the allotment. Only one year of baseline data was available at these key areas so trend was determined based on repeat photos that were taken in 2011 and again in 2016,

## **10. Modena Canyon**

The Modena Canyon Allotment consists of 23,603 acres (BLM), 2,386 (SITLA) and 1,182 (Private) of these acreages 12,392 acres are within the Mt. Elinore HMA and 6,316 acres are within the Tilly Creek HMA. (45% of the allotment is in the Mt. Elinore HMA and 23% in the Tilly Creek HMA). Average actual livestock use has been approximately 100 AUMs, which is within the permitted grazing preference. The allotment is grazed from July 1<sup>st</sup> – September 30<sup>th</sup> under a 2-year pasture rotation system which provides for critical growing period rest. The allotment is utilized by 1 livestock permittee. Habitat improvement

projects consist of the Paradise fire Aerial seeding with a mixture of chaining of > 3,000 acres. Utilization was exceeded within areas of the allotment in 2015, with wild horses and wildlife contributing to moderate – heavy utilization along those transects. No key area data was recorded within the associated HMA and was not added to this report.



## **11. Mountain Spring**

The Mountain Spring Allotment consists of 24,999 acres (BLM), 2,302 (SITLA) and 1,491 (Private) of these acreages 98 acres are within the Four Mile HMA. (1% of the allotment is in the Four Mile HMA). Average actual livestock use has been approximately 403 AUMs, which is within the permitted grazing preference. The allotment is grazed from June 1<sup>st</sup> – November 30<sup>th</sup> under a 2-year pasture rotation system which provides for critical growing period rest. The allotment is utilized by 1 livestock permittee. Habitat improvement projects consist of the Bible Springs Resource Chaining of 1,042 acres in 1967. Utilization was exceeded within areas of the allotment 2011, 2012, 2017, 2018 & 2019 with wild horses and wildlife contributing to moderate – heavy utilization along those transects. Nested frequency data indicates that there is 1 static trend at the key management area (1 – Static) recorded within the allotment.

## **12. Pine Valley**

The Pine Valley Allotment consists of 21,207 acres (BLM), 1,357 (SITLA) and 634 (Private) of these acreages 15,913 acres are within the Bible Springs HMA and 1,809 acres are within the Tilly Creek HMA. (54% of the allotment is in the Bible Spring HMA and 6% in the Four Mile HMA). Average actual livestock use has been approximately 385 AUMs, which is within the permitted grazing preference. The allotment is grazed from May 15<sup>th</sup> – September 15<sup>th</sup> under a 2-year pasture rotation system which provides for critical growing period rest. The allotment is utilized by 1 livestock permittee. Habitat improvement projects consist of the Pine Valley Resource Chaining west of 1,123 acres in 1962, Pine Valley Resource Chaining #2 of 650 acres in 1963, Pine Valley Resource Chaining East of 126 acres in 1963 and a portion of the Broken Ridge Fire ESR Chaining in 2010 of > 500 acres. Utilization was exceeded within areas of the allotment 2010 with wild horses contributing to moderate – heavy utilization along those transects. All key areas are outside the HMA for Pine Valley.

## **13. Rosebud**

The Rosebud Allotment consists of 7,334 acres (BLM), 967 (SITLA) and 5,306 (Private) of these acreages 8,552 acres are within the Tilly Creek HMA. (61% of the allotment is in the Tilly Creek HMA). Average actual livestock use has been approximately 83 AUMs, which is within the permitted grazing preference. The allotment is grazed from May 1<sup>st</sup> – November 30<sup>th</sup> these dates are never used for the full term with the majority of cattle using the private pastures. The BLM portion is mostly in a dense pinyon and juniper forest with limited understory that gets minimal cattle use. Actual use has been based on billing since the permittee pays for full numbers, however utilization from livestock is minimal on public land. The allotment is utilized by 1 livestock permittee. All habitat improvement projects are on private land within the Rosebud allotment. All utilization studies show use within acceptable parameters. The key area shows static trend (1-Static).

#### **14. Sheep Spring**

The Sheep Spring Allotment consists of 15,372 acres (BLM), 434 (SITLA) and 41 (Private) of these acreages 11,774 acres are within the Bible Springs HMA and 3,630 acres are within the Tilly Creek HMA. (76% of the allotment is in the Bible Spring HMA and 22% in the Four Mile HMA). Average actual livestock use has been approximately 0 AUMs, which is within the permitted grazing preference. The grazing permit was acquired by the Wild Mustang Association and it not used for livestock grazing. Habitat improvement projects consist of the Wilson Canyon Mastication of 774 acres in 2005 and the Wilson Canyon Lop & Scatter project of 103 acres in 2005. Utilization was exceeded within areas of the allotment 2012, 2015, 2016, 2018 & 2020, with wild horses & wildlife contributing to moderate – heavy utilization along those transects. One key area was documented within the allotment and shows a downward trend.

#### **15. Water Hollow**

The Water Hollow Allotment consists of 28,301 acres (BLM) and 3,687 (SITLA) of these acreages 4,610 acres are within the Blawn Wash Herd Management Area. Average actual livestock use has been approximately 1455 AUMs, which is within the permitted grazing preference. The allotment is grazed May 1<sup>st</sup> through November 30<sup>th</sup>. The spring pastures are used on a 3 year rest rotation schedule to provide for critical growing season rest and the summer/fall pastures are on a four year rest rotation schedule. The allotment is utilized by 1 livestock permittees. Utilization has been exceeded in years 2021, with wild horses and wildlife within the area. All key areas are outside the HMA for Water Hollow.

#### **16. Willow Creek**

The Willow Creek Allotment consists of 48,127 acres (BLM) and 4,111 (SITLA) and 2,656 (Private) of these acreages 20,264 acres are within the Blawn Wash Herd Management Area. Average actual livestock use has been approximately 1455 AUMs, which is within the permitted grazing preference. The allotment is grazed October 20<sup>th</sup> through May 31<sup>st</sup>. The allotment is utilized by 2 livestock permittees. Utilization has been within objective parameters. Nested frequency data indicates that there is a static trend at the key management areas (1 – Static) within the HMA boundary.